

CITY AND COUNTY OF DENVER

STATE OF COLORADO

\* \* \* \* \*

PROPOSAL, CONTRACT,

SPECIFICATIONS, ETC.,

FOR

STREET INTERSECTION PROJECT NO. 985  
AT EAST 46TH AVENUE AND FRANKLIN STREET

Submitted to the Manager of Improvements and Parks  
on the 19th day of October, 1955.

C.E. HARNESS

Deputy City Engineer

Adopted this 19th day of October, 1955.

ADMINISTRATIVE RECORD

R.Y. BATTERTON

Manager of Improvements and Parks

ADMINISTRATIVE RECORD

D3(e)(v)

D 00464

NOTICE FOR PROPOSALS  
DEPARTMENT OF IMPROVEMENTS AND PARKS  
CITY AND COUNTY OF DENVER

Denver, Colorado

October 19, 1955

Sealed proposals will be received at the City Engineer's Office, Room 376, City and County Building, up to 11 o'clock A.M., of November 3, 1955, for STREET INTERSECTION PROJECT NO. 985 AT 46TH AVENUE AND FRANKLIN STREET.

Bid Surety in the amount of 5% of the bid shall accompany the proposal. Such surety shall be either a certified check, cashier's check or bid bond.

Plans, specifications, proposal forms, etc., may be obtained at the City Engineer's Office upon deposit of \$15.00.

The City and County of Denver reserves the right to reject any or all bids and to waive informalities as its best interest may appear.

R.Y. BATTERTON, MANAGER

First publication October 20, 1955  
Last publication November 2, 1955

D 00465

C I T Y   A N D   C O U N T Y   O F   D E N V E R

D E P A R T M E N T   O F   I M P R O V E M E N T S   A N D   P A R K S

E N G I N E E R I N G   S E C T I O N

\* \* \* \* \*

S T R E E T   I N T E R S E C T I O N   P R O J E C T   N O .   9 8 5  
A T   E A S T   4 6 T H   A V E N U E   A N D   F R A N K L I N   S T R E E T

S T A T E M E N T   O F   Q U A N T I T I E S

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>
1.	Excavation	38 Cubic Yards
9a.	Combination 6" Curb and Gutter	169 Lineal Feet
9b.	Concrete Sidewalk	140 Square Feet
9c.	6" Concrete Paving	144 Square Yards
15a.	Removing 9" Curb and Gutter	209 Lineal Feet
15b.	Removing Sidewalk	400 Square Feet
20.	Project Signs	2

C I T Y   A N D   C O U N T Y   O F   D E N V E R

D E P A R T M E N T   O F   I M P R O V E M E N T S   A N D   P A R K S

E N G I N E E R I N G   S E C T I O N

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P R O P O S A L   F O R   S T R E E T   I N T E R S E C T I O N   P R O J E C T   N O .   9 8 5  
A T   E A S T   4 6 T H   A V E N U E   A N D   F R A N K L I N   S T R E E T

To: The Manager of Improvements and Parks  
City and County of Denver  
City and County Building  
Denver, Colorado

Sir:

The Undersigned Bidder, having examined the plans, specifications and other proposed contract documents as designated and enumerated in the General and Special Contract Conditions hereto attached, and any and all addenda thereto; having investigated the location of and conditions affecting the proposed work; and being acquainted with and fully understanding the extent and character of the work covered by this Proposal, and all factors and conditions affecting or which may be affected by the work,

HEREBY PROPOSES, pursuant to an advertisement of Notice for Proposals first published October 20, 1955, a copy of which is attached, to furnish all required materials, tools, appliances, equipment and plant; to perform all necessary labor; and to undertake and complete the construction of STREET INTERSECTION PROJECT NO. 985 AT EAST 46TH AVENUE AND FRANKLIN STREET, Denver, Colorado, in full accordance with and conformity to plans, specifications and contract documents hereto attached or by reference made a part hereof, at and for the following prices:

<u>Item No.</u>	<u>Description and Price</u>	<u>Estimated Quantity</u>	<u>Estimated Cost</u>
1.	Excavation at the unit price of <u>Three</u> dollars and <u>No</u> cents (\$3.00 ) per cubic yard.	38 Cu. Yds.	<u>\$ 114.00</u>
9a.	Combination 6" Curb and Gutter at the unit price of <u>Two</u> dollars and <u>No</u> cents (\$2.00 ) per lineal foot.	169 Lin. Ft.	<u>338.00</u>

D 00467

<u>Item No.</u>	<u>Description and Price</u>	<u>Estimated Quantity</u>	<u>Estimated Cost</u>
9b.	Concrete Sidewalk at the unit price of <u>No</u> dollars and <u>Thirty Five</u> cents (\$.35 ) per square foot.	140 Sq. Ft.	<u>49.00</u>
9c.	6" Concrete Paving at the unit price of <u>Four</u> dollars and <u>Seventy Five</u> cents (\$4.75 ) per square yard.	144 Sq. Yds.	<u>684.00</u>
15a.	Removing 9" Curb and Gutter at the unit price of <u>No</u> dollars and <u>Fifty</u> cents (\$.50 ) per lineal foot.	209 Lin. Ft.	<u>104.50</u>
15b.	Removing Sidewalk at the unit price of <u>No</u> dollars and <u>Ten</u> cents (\$.10 ) per square foot.	400 Sq. Ft.	<u>40.00</u>
20.	Project Signs at no cost.	2	<u>No Cost</u>
TOTAL ESTIMATED COST			<u>\$1,329.50</u>

The Undersigned Bidder hereby agrees to be ready and to appear at the office of the Manager of Improvements and Parks to execute the attached form of contract in conformity with this bid and also to have ready and furnish the required bond in the sum of the full amount of this proposal, executed by a Surety Company acceptable to the Mayor and the Manager, at any time within ten (10) days from the date of a written notice from the Manager so to do, mailed to the address herein-after given.

The Phoenix Indemnity Company of New York is hereby offered as Surety on said bond. If such Surety is not approved by the Mayor and the Manager, another and satisfactory surety company will be furnished.

D 00468

Enclosed herewith is a proposal guarantee, as defined in the attached Instructions to Bidders in the amount of 5% of Bid Bond, which proposal guarantee the Undersigned Bidder agrees is to be forfeited to and become the property of the City, as liquidated damages, should the Proposal be accepted and Contract awarded him and he fail to enter into contract in the form prescribed and to furnish the required bond within ten (10) days as stipulated.

This Proposal is made without any connection with any other person, firms or corporations making any other bid for this same work and is in all respects fair and without collusion or fraud.

The following persons, firms, or corporations are interested with the Undersigned Bidder in this Proposal:

Name \_\_\_\_\_

Address \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

If there are no such persons, firms, or corporations, please so state in the following space. None

The Undersigned Bidder proposes to sublet the following work:

<u>Item of Work</u>	<u>Proposed Sub-Contractor</u>	<u>Address</u>
<u>None</u>	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The Undersigned Bidder acknowledges the right of the City to reject any or all bids submitted and to waive informalities therein.

Dated at Denver, Colo. this 3rd day of November, 1955.

Signature of Bidder:

If an individual: \_\_\_\_\_, doing business  
as \_\_\_\_\_

If a partnership: \_\_\_\_\_  
by \_\_\_\_\_, member of firm.

D 00469

If a corporation: Latimer Construction Company  
a Colorado corporation,  
by M.R. Latimer

Corporate  
Seal

Title Pres.

Business address of Bidder 930 Wyandot  
Denver, Colo.

The name and location of the last work of this kind herein contemplated upon which  
Bidder was engaged is as follows:

Denver, Colo.  
\_\_\_\_\_  
\_\_\_\_\_

For information relative thereto, please refer to:

Name You  
Title \_\_\_\_\_  
Address \_\_\_\_\_

D 00470

C I T Y   A N D   C O U N T Y   O F   D E N V E R

D E P A R T M E N T   O F   I M P R O V E M E N T S   A N D   P A R K S

E N G I N E E R I N G   S E C T I O N

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S T R E E T   I N T E R S E C T I O N   P R O J E C T   N O .   9 8 5  
A T   E A S T   4 6 T H   A V E N U E   A N D   F R A N K L I N   S T R E E T

S P E C I A L   C O N T R A C T   C O N D I T I O N S

SC-1 General Description of Work. The work to be performed under these documents and the Specifications and Plans designated in Paragraphs SC-2 and SC-3 hereof consists of furnishing all labor, tools, equipment, materials and supplies for grading streets, constructing curb, gutter, concrete pavement and all work incidental thereto for STREET INTERSECTION PROJECT NO. 985 AT EAST 46TH AVENUE AND FRANKLIN STREET.

SC-2 Detailed Specifications. The detailed specifications designated "Street Paving Specifications", dated March 10, 1954, Addendum to Street Paving Specifications, dated October 20, 1955, which are included herein, shall govern the materials to be furnished and the work to be performed in the execution of the Contract.

SC-3 Plans. The plans consist of attached detail sheet for the Project and the following standard sheets:

Standard Details for Barricades	- Drawing No. 104-1-E
Standard Sidewalk and Driveway Details in Commercial Areas	- Drawing No. 104-1-V

SC-4 Insurance. Section GC-32 is revised to the following:

One certified copy of the above policies and six (6) copies of a certificate evidencing the existence thereof shall be delivered to the City's Manager of Improvements and Parks upon the execution of this Contract. Each such copy and certificate must bear the following special endorsement by the agent of the proposed insurance carrier:

"This policy will not be altered, materially changed or cancelled without giving fifteen (15) days prior written notice, via registered mail, to the Manager of Improvements and Parks of the City and County of Denver."

A valid receipt showing payment of the premium for all such insurance shall be submitted to the City by the Contractor when he signs and returns the Contract to the City for the signature of the proper City officials.

D 00471



A renewal policy shall be delivered to the City at least fifteen (15) days prior to a policy's expiration date except for any policy expiring on the expiration date of the Contract or thereafter.

- SC-5 Insurance Limits. The Contractor shall carry throughout the life of the contract the insurance called for in the General Contract Conditions in minimum limits as follows:

<u>Under Section GC-32a</u>	<u>Minimum Limits</u>
Public Liability	\$25,000/\$50,000
Property Damage	\$10,000/\$25,000

<u>Under Section GC-32b</u>	<u>Minimum Limits</u>
Public Liability	\$50,000/\$100,000
Property Damage	\$10,000

- SC-6 Time Limits. The Contractor shall fully complete all work covered by this Contract within thirty (30) consecutive calendar days, from the date the Contractor is authorized to proceed with the work in accordance with the provisions of Section GC-47 of the General Contract Conditions.

- SC-7 Liquidated Damages. In accordance with the provisions of Section GC-48 of the General Contract Conditions, the Contractor shall pay the City as and for liquidated damages and not as a penalty the amount of Fifty Dollars (\$50.00) for each and every day the Contractor shall be in default of completion beyond the time limit above specified, or such extension or extensions thereof as the Manager may authorize in accordance with the provisions of the General Contract Conditions.

- SC-8 Final Acceptance. Upon written request of the Contractor, the City will give final acceptance of logical areas of the district as they are completed to the satisfaction of the Engineer.

- SC-9 Additional Plans and Specifications. The Contractor for this district is entitled to five (5) complete sets of plans and specifications without charge for his use as well as the suppliers, sub-contractors or others for whom he feels plans are necessary. Additional sets of plans and specifications can be secured by Contractor at a cost of \$5.00 per set.

- SC-10 Sub-Contractors. Particular attention is invited to the last paragraph of GC-43 concerning requirements for naming in the Proposal the sub-contractors proposed on the work. Failure to so name the sub-contractors will be cause for rejection of the proposal.

C I T Y   A N D   C O U N T Y   O F   D E N V E R

D E P A R T M E N T   O F   I M P R O V E M E N T S   A N D   P A R K S

E N G I N E E R I N G   S E C T I O N

\* \* \* \* \*

A D D E N D U M   N O .   1   T O   S T R E E T   P A V I N G   S P E C I F I C A T I O N S

(For Street Intersection Project No. 985  
At East 46th Avenue and Franklin Street)

October 20, 1955

1.   H A U L I N G   E X C A V A T E D   M A T E R I A L .

In lines 8 and 9 of Paragraph 1.3 of the Specifications the term "in the vicinity" is construed to mean within a haul distance of one (1) mile.

2.   C O N C R E T E   P A V I N G .

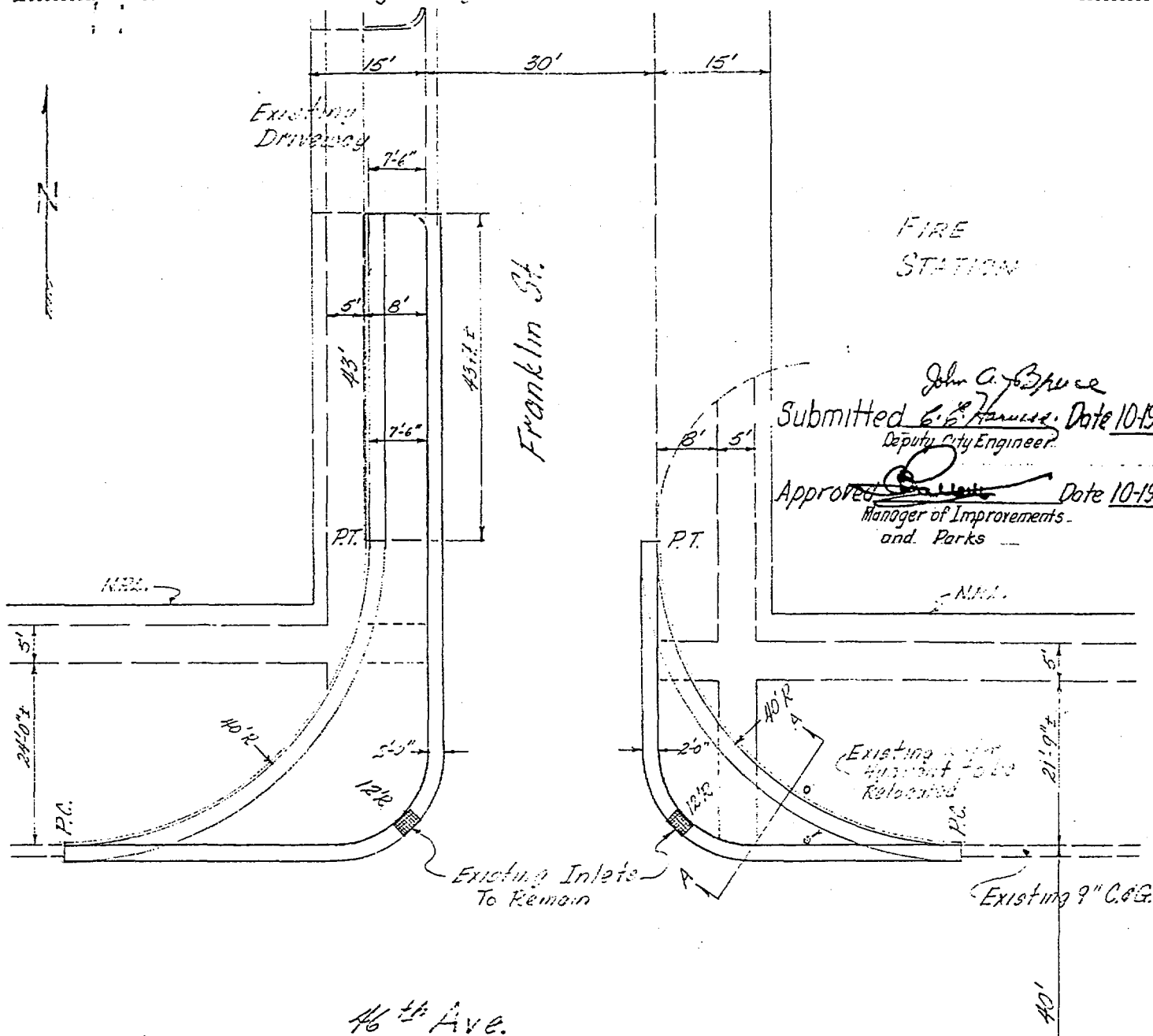
2.1-Description and Requirements. Where indicated by the plans and as staked by the Engineer, the Contractor shall construct concrete pavement. Concrete work shall be done in accordance with requirements of "Item 9, Concrete Work" of the Specifications. Care shall be used to protect the existing inlets and to finish the paving work to facilitate drainage as staked by the Engineer. Upon completion of the paving, the adjacent asphalt street paving shall be patched to join the concrete pavement and secure a smooth, neat finish, free from irregularities.

All damage to inlets and pavement adjacent to the concrete paving shall be repaired by the Contractor at his expense.

2.2-Method of Measurement. The quantity to be paid for under this item shall be the number of square yards of concrete pavement measured over the top surface and excluding the area of the 24" width of gutter included with the Combination 6" Curb and Gutter.

2.3-Payment. This item, constructed and measured in accordance with the foregoing requirements, will be paid for at the contract unit price per square yard for "6" Concrete Paving" complete in place, which price and payment shall include all materials, repairs, labor, tools, equipment, supplies and work incidental thereto.

D 00473



Submitted John A. Bruce Date 10-19-19  
 Deputy City Engineer.  
 Approved [Signature] Date 10-19-19  
 Manager of Improvements and Parks

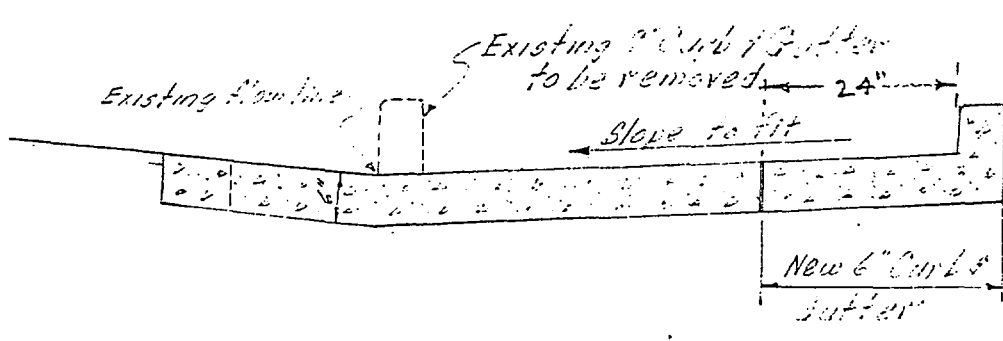
46th Ave.

**NOTE**

All work is to be done in accordance with the specifications issued and stakes furnished by the City Engineers Office.

Plan (Scale: 1"=20')

D 00474



**NOTE**

The slope of gutter or height of curb shall be modified to meet conditions as staked by the Engineer.

RECEIVED  
NOV 15 1955  
ENGINEERING & SURVEY

DEPT. OF IMPROVEMENTS & PARKS  
RECEIVED  
NOV 15 1955  
By \_\_\_\_\_

November 15, 1955

MEMORANDUM

TO: Deputy City Clerk  
FROM: Legal Department  
SUBJECT: Contract - Latimer Construction Co.

Transmitted herewith for your information and file is Contract between the City and County of Denver and the Latimer Construction Co., dated November 9, 1955 and relating to Street Intersection Project No. 985.

Attached

cc: Auditor  
Manager of Improvements and Parks  
Contractor  
City Attorney

Mr. A. Y. Batterton: Attached hereto is Contractor's copy of Contract for your transmittal.

D 00475

CITY AND COUNTY OF DENVER

STATE OF COLORADO

\* \* \* \* \*

PROPOSAL, CONTRACT,  
SPECIFICATIONS, ETC.,

FOR

STREET INTERSECTION PROJECT NO. 985  
AT EAST 46TH AVENUE AND FRANKLIN STREET

PETER KIEWIT SONS CO.  
OCT 25 '55  
DENVER, COLO.

Submitted to the Manager of Improvements and Parks  
on the 19th day of October, 1955.

C.E. HARNESS

Deputy City Engineer

Adopted this 19th day of October, 1955.

R.Y. BATTERTON

Manager of Improvements and Parks

D 00476

# Certificate of Insurance

Issued by the  
STATE COMPENSATION INSURANCE FUND  
660 State Capitol Annex  
Denver, Colorado

## TO WHOM IT MAY CONCERN:

This is to certify that this Department has issued a Standard Workmen's Compensation and Employers' Liability Policy as described below covering the liability imposed upon subject employers by the Workmen's Compensation Act of Colorado and the Colorado Occupational Disease Disability Act, said policy being in good standing as of this date.

\*POLICY NO.....11733.....

Policy Period.....January 1, 1955..... to.....January 1, 1956.....

Name of Assured.....LATIMER CONSTRUCTION COMPANY.....

Address.....930 WYANDOT STREET, DENVER 4, COLORADO.....

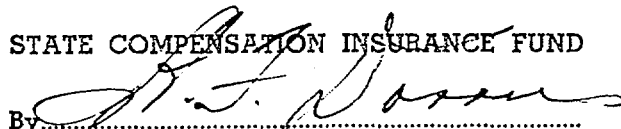
## POLICY ENDORSEMENTS:

MONTHLY ADJUSTMENT

\*All policies are subject to the following provision of the Workmen's Compensation Act with respect to cancellation:

Section 133. If any employer shall be in arrears for more than twenty days in any payment required to be made by him to the State Compensation Insurance Fund as provided by this Act, he shall by virtue of such arrearage be in default of such payment and any policy issued to him by said Fund shall thereupon be cancelled without notice as of the effective date or renewal date of said policy.

STATE COMPENSATION INSURANCE FUND

By..........

DATED.....November 7, 1955.....

Underwriting Supervisor



## CERTIFICATE OF INSURANCE

Date November 9, 1955

This is to certify that this Company has issued policies indicated below to—

Name of Insured Latimer Construction Company, et alAddress of Insured 930 Wyandot Street, Denver, ColoradoDescription of Motor Vehicle  
or Operations of Insured General ContractorPlace of Garaging or  
Location of Operations or Premises Project #965, Intersection of 46th Avenue and  
Franklin Street, Denver, Colorado

POLICY NUMBERS	KIND OF INSURANCE	LIMITS	EFFECTIVE	EXPIRES
<u>CL 5659067</u>	AUTOMOBILE			
	Bodily Injury Liability	Each Person \$ <u>100,000.00</u>	<u>5-1-55</u>	<u>5-1-56</u>
		Each Accident \$ <u>300,000.00</u>		
	Property Damage Liability	Each Accident \$ <u>10,000.00</u>		
	AUTOMOBILE MEDICAL PAYMENTS			
	Bodily Injury Liability	Each Person \$ _____		
<u>CL 5659067</u>	AUTOMOBILE NON-OWNERSHIP LIABILITY			
	Bodily Injury Liability	Each Person \$ <u>100,000.00</u>	<u>5-1-55</u>	<u>5-1-56</u>
		Each Accident \$ <u>300,000.00</u>		
	Property Damage Liability	Each Accident \$ <u>10,000.00</u>		
<u>CL 5659067</u>	AUTOMOBILE HIRED CAR LIABILITY			
	Bodily Injury Liability	Each Person \$ <u>100,000.00</u>	<u>5-1-55</u>	<u>5-1-56</u>
		Each Accident \$ <u>300,000.00</u>		
	Property Damage Liability	Each Accident \$ <u>10,000.00</u>		
	WORKMEN'S COMPENSATION			
<u>CL 5659067</u>	PUBLIC LIABILITY	Each Person \$ <u>50,000.00</u>	<u>5-1-55</u>	<u>5-1-56</u>
	Bodily Injury Liability	Each Accident \$ <u>100,000.00</u>		
		Aggregate \$ <u>100,000.00</u>		
	Property Damage Liability	Each Accident \$ <u>10,000.00</u>		
		Aggregate \$ <u>25,000.00</u>		
<u>CL 5659067</u>	PROTECTIVE PUBLIC LIABILITY			
	Bodily Injury Liability	Each Person \$ <u>50,000.00</u>	<u>5-1-55</u>	<u>5-1-56</u>
		Each Accident \$ <u>100,000.00</u>		
	Property Damage Liability	Each Accident \$ <u>10,000.00</u>		
		Aggregate \$ <u>25,000.00</u>		

It is agreed by the Company that if the above policy be cancelled ~~or materially changed or alt~~ by the Company during its term, 15 days ~~in~~ written notice prior to such cancellation will be given to City & County of Denver, of Denver, Colorado

This Certificate of Insurance is not valid unless it is countersigned by a duly authorized agent of this Company.

THE EMPLOYERS' LIABILITY ASSURANCE CORPORATION, LIMITED

RICHARD W. ROOT, RESIDENT MANAGER

Countersigned BY [Signature]Edward A. Garner  
United States Manager and Attorney.

# Phoenix Indemnity Company

HOME OFFICE: 55 FIFTH AVENUE  
NEW YORK 3, N. Y.

## KNOW ALL MEN BY THESE PRESENTS:

That the PHOENIX INDEMNITY COMPANY, a New York Corporation, having its principal office in the City, County and State of New York, pursuant to the following by-law, which was duly adopted and passed by the Board of Directors of the said Company on February 2, 1943, to wit:

### "Article IV, Section 1,

"The Board of Directors may also at any time appoint, and either by general resolution or specific delegation from time to time, may grant to the President or any Vice-President, power and authority to appoint Resident Vice-Presidents, Resident Secretaries, Resident Assistant Secretaries and Attorneys-in-Fact and to give such appointees full power and authority to sign and to seal with the Company's seal where required all policies, bonds, underwriting undertakings, and consents of surety and either the Board or such officer may at any time in their or his judgment remove any such appointees and revoke any authority given to them."

And the following resolution was duly passed by the Board of Directors on September 11, 1953:

"RESOLVED, That the President or the Executive Vice-President shall without further act or resolution of the Board of Directors have power and authority to appoint Resident Vice-Presidents, Resident Secretaries, Resident Assistant Secretaries and Attorneys-in-Fact and to give such appointees full power and authority to sign and to seal with the Company's seal where required all policies, bonds, underwriting undertakings and consents of surety and such officer may at any time in his judgment remove such appointees and revoke any authority given to them."

does hereby nominate, constitute and appoint CLARENCE J. DALY, JOHN F. LUEDERS, JOSEPH M. BOYCE

and JOHN T. STODDART, JR. of Denver, Colorado, EACH - - - - -

its true and lawful Attorney s -in-Fact, to make, execute, seal and deliver for and on its behalf as surety and as its act and deed: ANY AND ALL BONDS AND UNDERTAKINGS PROVIDED HOWEVER THAT THE PENAL

SUM OF ANY ONE INSTRUMENT HEREUNDER SHALL NOT EXCEED FIVE HUNDRED THOUSAND

(\$500,000.00) DOLLARS - - - - -

And the execution of such bonds or undertakings in pursuance of these presents shall be as binding upon said Company as fully and amply, to all intents and purposes as if they had been duly executed and acknowledged by the regularly elected officers of said Company; (and the said Company hereby ratifies and confirms all the acts of said Attorney s -in-Fact pursuant to the power herein given).

The undersigned Assistant Secretary does hereby certify that the foregoing is a true copy of Article IV, Section 1, of the By-Laws and resolutions of said Company, and the following is a true copy of a resolution adopted by the Board of Directors on September 11, 1953 relating to certification of this Power of Attorney, and that these By-Laws and resolutions are now in full force and effect.

"RESOLVED, That P. W. Bartlett, D. H. Davies, Thomas Errick, B. E. Farley, L. T. Hartmann, F. E. Newton, Robert T. Pierce, A. G. Stanten and John R. Toborg be and each of them is hereby authorized and empowered to authenticate or certify under seal of this Company, copies of original Powers of Attorney and as to the financial condition of the Company."

IN WITNESS WHEREOF, the PHOENIX INDEMNITY COMPANY has caused these presents to be signed by its Exec.Vice President and its corporate seal to be hereto affixed, duly attested by its Ass't. Secretary on this

24th day of May, 1955

SEAL:

PHOENIX INDEMNITY COMPANY

ATTEST: D. H. Davies

By: J. R. Robinson

D. H. Davies, Ass't. Secretary

J. R. Robinson, Exec.Vice -President

STATE OF NEW YORK } ss:  
COUNTY OF NEW YORK }

On the date of execution of the preceding instrument, before me personally came the above-named Exec. Vice President and Ass't. Secretary of the PHOENIX INDEMNITY COMPANY, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and they acknowledged the execution of the same, and being by me duly sworn, severally and each for himself depose and sayeth, that they are the said officers of the Company aforesaid, and that the seal affixed to the preceding instrument is the corporate seal of said Company and that the said corporate seal and their signatures as such officers were duly affixed and subscribed to the said instrument by the authority and direction of the said Company.

Joseph La Spina

Notary Public

## CERTIFICATE

I, the undersigned, authorized representative of the PHOENIX INDEMNITY COMPANY, do hereby certify that the original Power of Attorney of which the foregoing is a true and correct copy, is in full force and effect, and has not been revoked.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said Company, this 9th day of

Nov, 1955

L. T. Hartmann  
Authorized Representative

This Power of Attorney limits the act of those named therein to the bonds and undertakings specifically named therein, and they have no authority to bind the Company except in the manner and to the extent therein stated.



CITY AND COUNTY OF DENVER

DEPARTMENT OF IMPROVEMENTS AND PARKS

ENGINEERING SECTION

\* \* \* \* \*

INSTRUCTIONS TO BIDDERS

The following instructions are given for the purpose of guiding Bidders in properly preparing their bids or proposals, constitute a part of the contract documents and shall be strictly complied with:

- IB-1. Proposals. Each proposal must be made on the form provided in this bound copy of the Contract Documents, all of which documents must be returned in good order therewith. Each proposal must be enclosed in a sealed envelope addressed to the Manager of Improvements and Parks, City and County of Denver, and showing on the face thereof the name of the Bidder and the project covered by the Proposal.
- IB-2. Filling In and Signing Proposals. Each proposal shall be legibly written in ink, with all prices given in words and figures, and must cover all of the items of work called for therein and no others. All of the blank spaces in the proposal form must be properly filled out. Each Bidder must sign the proposal with his usual signature and shall give his full business address. Bids by partnerships shall be signed with the partnership name by one of the members of the partnership or by an authorized representative, followed by the signature and designation of the person signing. Bids by corporations shall be signed with the name of the corporation followed by the signature and designation of the President, Secretary, or other person authorized to bind it in the matter and shall have the corporate seal affixed thereto.
- IB-3. Qualifications of Bidders. No proposal shall be accepted from and no contract will be awarded to any person, firm or corporation that is in arrears to the City and County of Denver, upon debt or contract or that is a defaulter, as surety or otherwise, upon any obligation to the City, or that is deemed irresponsible or unreliable by the Manager. Bidders may be required to submit satisfactory evidence that they have a practical knowledge of the particular work bid upon and that they have the necessary financial resources to complete the proposed work.
- IB-4. Informal and Unbalanced Proposals. Any alteration, interlineation or erasure by the Bidder in the form of the Contract documents as originally prepared by the Engineer and attached

NOTICE FOR PROPOSALS  
DEPARTMENT OF IMPROVEMENTS AND PARKS  
CITY AND COUNTY OF DENVER

Denver, Colorado

October 19, 1955

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The City and County of Denver reserves the right to reject any or all bids and to waive informalities as its best interest may appear.

R.Y. BATTERTON, MANAGER

First publication October 20, 1955  
Last publication November 2, 1955

D 00481

hereto shall render the accompanying proposal informal and may constitute cause for rejection by the Manager. Proposals that, in the opinion of the Manager, are unbalanced so that each item does not carry its own proportion of cost as nearly as possible or that contains inadequate or unreasonable prices for any item may be rejected.

- IB-5. Only One Proposal Accepted. The Manager will accept only one (1) proposal for the same work from any one bidder, including proposals that may be submitted under different names by one firm or corporation.
- IB-6. Proposal Guarantee. Each proposal shall, as a guarantee of good faith on the part of the bidder, be accompanied by a proposal guarantee consisting of either a certified or cashier's check drawn on an approved National Bank or Trust Company in the City and County of Denver, Colorado, and made payable without condition to the order of the City or of a bid bond written by an approved corporate Surety in favor of the City and County of Denver, in an amount stated in the Notice for Proposals. If the proposal of a bidder is accepted and contract awarded to him, and said bidder fails to enter into a contract in the form prescribed and to furnish bond with a legally responsible and approved Surety within (10) days after such award is made by the City, said proposal guarantee shall be forfeited to the City as liquidated damages.
- IB-7. Return of Proposal Guarantee. As soon as bid prices have been compared Proposal Guarantees of all except the three lowest bidders will be returned. When Contract is awarded and successful bidder executes the Contract and files satisfactory Performance Bond, the Proposal Guarantee of three bidders shall be returned. In any event, the Proposal Guarantees of these three bidders shall be returned to them within thirty days from date bids are opened.
- IB-8. Investigations. Bidders must satisfy themselves by personal investigation, and by such other means as they may think necessary or desirable, as to the location of and conditions affecting the proposed work and as to the cost thereof. No information derived from the maps, plans, specifications, profiles or drawings, or from the Engineer or his assistants, will relieve the Contractor from any risk or from fulfilling all of the terms of his Contract. The accuracy of the bidder's interpretation of the facts disclosed by any preliminary investigations that may have been made by the Engineer is not guaranteed. The Engineer's estimate of quantities given in the "Statement of Quantities" is to be considered as preliminary and approximate only and to be used only for the purpose of canvassing and comparing bids. The bidder shall not at any time make claim to any additional payments or considerations on account of any misunderstanding regarding the nature or amount of work to be done.

- IB-9. Inconsistencies. Any seeming inconsistencies between different provisions of the Plans, Specifications, or Contract, or any point requiring explanation, must be inquired into by the Bidder in writing to the Manager of Improvements and Parks at least 48 hours, excluding Saturdays, Sundays and holidays prior to the time set for the opening of the proposals. A copy of the decision will be posted on the bulletin board at the door of the Engineer's Office. After proposals are opened, all bidders must abide by the decision of the said Manager as to such interpretation.
- IB-10. Withdrawal of Bid. A bidder may withdraw his proposal at any time prior to the expiration of the period set forth in the "Notice for Proposals" for the receipt thereof by making written request upon the Manager for such withdrawal. Such request must be signed in the same manner as the proposal and by the same person or persons. After the expiration of such period, no proposal can be withdrawn or modified.
- IB-11. Bulletin. Bidders are directed to carefully examine the bulletin board at the door of the Engineer's Office just before making bid for the latest information with regard to this work.
- IB-12. Opening of Proposals. Bidders are invited to be present at the opening of the proposals.

CITY AND COUNTY OF DENVER

DEPARTMENT OF IMPROVEMENTS AND PARKS

ENGINEERING SECTION

\*\*\*\*\*

STREET INTERSECTION PROJECT NO. 985  
AT EAST 46TH AVENUE AND FRANKLIN STREET

STATEMENT OF QUANTITIES

<u>Item No.</u>	<u>Description</u>	<u>Estimated Quantity</u>
1.	Excavation	38 Cubic Yards
9a.	Combination 6" Curb and Gutter	169 Lineal Feet
9b.	Concrete Sidewalk	140 Square Feet
9c.	6" Concrete Paving	144 Square Yards
15a.	Removing 9" Curb and Gutter	209 Lineal Feet
15b.	Removing Sidewalk	400 Square Feet
20.	Project Signs	2

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CITY AND COUNTY OF DENVER

DEPARTMENT OF IMPROVEMENTS AND PARKS

ENGINEERING SECTION

\*\*\*\*\*

PROPOSAL FOR STREET INTERSECTION PROJECT NO. 985  
AT EAST 46TH AVENUE AND FRANKLIN STREET

To: The Manager of Improvements and Parks  
City and County of Denver  
City and County Building  
Denver, Colorado

Sir:

The Undersigned Bidder, having examined the plans, specifications and other proposed contract documents as designated and enumerated in the General and Special Contract Conditions hereto attached, and any and all addenda thereto; having investigated the location of and conditions affecting the proposed work; and being acquainted with and fully understanding the extent and character of the work covered by this Proposal, and all factors and conditions affecting or which may be affected by the work,

HEREBY PROPOSES, pursuant to an advertisement of Notice for Proposals first published October 20, 1955, a copy of which is attached, to furnish all required materials, tools, appliances, equipment and plant; to perform all necessary labor; and to undertake and complete the construction of STREET INTERSECTION PROJECT NO. 985 AT EAST 46TH AVENUE AND FRANKLIN STREET, Denver, Colorado, in full accordance with and conformity to plans, specifications and contract documents hereto attached or by reference made a part hereof, at and for the following prices:

<u>Item No.</u>	<u>Description and Price</u>	<u>Estimated Quantity</u>	<u>Estimated Cost</u>
1.	Excavation at the unit price of <u>Three</u> dollars and <u>No</u> cents (\$3.00 ) per cubic yard.	38 Cu. Yds.	\$ <u>114.00</u>
9a.	Combination 6" Curb and Gutter at the unit price of <u>Two</u> dollars and <u>No</u> cents (\$2.00 ) per lineal foot.	169 Lin. Ft.	<u>336.00</u>

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<u>Item No.</u>	<u>Description and Price</u>	<u>Estimated Quantity</u>	<u>Estimated Cost</u>
9b.	Concrete Sidewalk at the unit price of <u>No</u> dollars and <u>Thirty Five</u> cents (\$.35 ) per square foot.	140 Sq. Ft.	<u>49.00</u>
9c.	6" Concrete Paving at the unit price of <u>Four</u> dollars and <u>Seventy Five</u> cents (\$.75 ) per square yard.	144 Sq. Yds.	<u>684.00</u>
15a.	Removing 9" Curb and Gutter at the unit price of <u>No</u> dollars and <u>Fifty</u> cents (\$.50 ) per lineal foot.	209 Lin. Ft.	<u>104.50</u>
15b.	Removing Sidewalk at the unit price of <u>No</u> dollars and <u>Ten</u> cents (\$.10 ) per square foot.	400 Sq. Ft.	<u>40.00</u>
20.	Project Signs at no cost.	2	<u>No Cost</u>
TOTAL ESTIMATED COST			<u>\$1,329.50</u>

The Undersigned Bidder hereby agrees to be ready and to appear at the office of the Manager of Improvements and Parks to execute the attached form of contract in conformity with this bid and also to have ready and furnish the required bond in the sum of the full amount of this proposal, executed by a Surety Company acceptable to the Mayor and the Manager, at any time within ten (10) days from the date of a written notice from the Manager so to do, mailed to the address herein-after given.

The Phoenix Indemnity Company of New York is hereby offered as Surety on said bond. If such Surety is not approved by the Mayor and the Manager, another and satisfactory surety company will be furnished.

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Enclosed herewith is a proposal guarantee, as defined in the attached Instructions

to Bidders in the amount of 5% of Bid Bond, which proposal guarantee the Undersigned Bidder agrees is to be forfeited to and become the property of the City, as liquidated damages, should the Proposal be accepted and Contract awarded him and he fail to enter into contract in the form prescribed and to furnish the required bond within ten (10) days as stipulated.

This Proposal is made without any connection with any other person, firms or corporations making any other bid for this same work and is in all respects fair and without collusion or fraud.

The following persons, firms, or corporations are interested with the Undersigned Bidder in this Proposal:

Name \_\_\_\_\_

Address \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

If there are no such persons, firms, or corporations, please so state in the following space. None

The Undersigned Bidder proposes to sublet the following work:

<u>Item of Work</u>	<u>Proposed Sub-Contractor</u>	<u>Address</u>
<u>None</u>	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The Undersigned Bidder acknowledges the right of the City to reject any or all bids submitted and to waive informalities therein.

Dated at Denver, Colo. this 3rd day of November, 1955.

Signature of Bidder:

If an individual: \_\_\_\_\_, doing business

as \_\_\_\_\_

If a partnership: \_\_\_\_\_

by \_\_\_\_\_, member of firm.



If a corporation: Latimer Construction Company  
a Colorado corporation,  
by M.R. Latimer

Corporate Seal \_\_\_\_\_ Title Pres.

Business address of Bidder 930 Wyandot  
Denver, Colo.

The name and location of the last work of this kind herein contemplated upon which Bidder was engaged is as follows:

Denver, Colo.

For information relative thereto, please refer to:

Name You  
Title \_\_\_\_\_  
Address \_\_\_\_\_

D 00488

CITY AND COUNTY OF DENVER

DEPARTMENT OF IMPROVEMENTS AND PARKS

ENGINEERING SECTION

\* \* \* \* \*

C O N T R A C T

THIS CONTRACT AND AGREEMENT, made and entered into this 9TH day of Nov, 19 55, by and between the City and County of Denver, a municipal corporation of the State of Colorado hereinafter referred to as the "City", party of the first part, and

Latimer Construction Company, a

Colorado Corporation

hereinafter referred to as the "Contractor", party of the second part.

WITNESSETH, Commencing on the 20th day of October, 19 55, and continuing for at least ten (10) days thereafter the City advertised that sealed proposals would be received for furnishing all labor, tools, supplies, equipment, materials and everything necessary and required for the following:

**STREET INTERSECTION PROJECT NO. 985  
At East 46th Avenue and Franklin Street**

WHEREAS, proposals pursuant to said advertisement have been received by the Manager of Improvements and Parks of the City and have been certified by said Manager to the Mayor with a recommendation that a Contract for said work be awarded to the above named Contractor who was the lowest reliable and responsible bidder therefor, and

WHEREAS, pursuant to said recommendation the Contract has been awarded to the above named Contractor by the Mayor and said Contractor is now willing and able to perform all of said work in accordance with said advertisement and his proposal.

NOW THEREFORE, in consideration of the compensation to be paid the Contractor, the mutual agreements hereinafter contained and subject to the terms hereinafter stated:

1. Contract Documents. It is agreed by the parties hereto that the following list of instruments, drawings and documents which are attached hereto, bound herewith or incorporated herein by reference constitute and shall be referred to either as the contract documents or the Contract and all of said instruments, drawings and documents taken together as a whole constitute the Contract between the parties hereto and they are as fully a part of this agreement as if they were set out verbatim and in full herein:

D 00489

Advertisement of Notice for Proposals.  
Instructions to Bidders.  
Statement of Work.  
Proposal.  
Special Contract Conditions.  
General Contract Conditions.  
Detail Specifications.  
Plans and Drawings.  
Performance Bond.  
Form of Final Receipt.  
addenda

2. Scope of Work. The Contractor agrees to and shall furnish all labor, tools, supplies, equipment, materials and everything necessary for and required to do, perform and complete all of the work described, drawn, set forth, shown and included in said contract documents.

3. Terms of Performance. The Contractor agrees to undertake the performance of the work under this Contract within ten (10) days after being notified to commence work by said Manager and agrees to fully complete said work within

**Thirty (30) Consecutive Calendar Days**

from the date of said notice, plus such extension or extensions of time as may be granted by said Manager in accordance with the provisions of the General Conditions.

4. Terms of Payment. The City agrees to pay the Contractor for the performance of all of the work required under this Contract, and the Contractor agrees to accept as his full and only compensation therefor, such sum or sums of money as may be proper in accordance with the price or prices set forth in the Contractor's Proposal hereto attached and made a part hereof for Items Number

1, 9a-9c, 15a, 15b and 20, the total estimated cost thereof being

One Thousand, Three Hundred Twenty-Nine and 50/100 dollars

(\$1,329.50).

5. Sales and Use Taxes. In accordance with Regulations 46 and 56, Department of Revenue, State of Colorado, it is agreed that all sales and use taxes due the State of Colorado on tangible personal property built into the project or structure in pursuance of this Contract shall be paid by the Contractor, and the Contractor agrees, within ten (10) months of payment of the tax, and before final payment on the Contract is made by the City, to furnish the City with a certificate, duly acknowledged, stating that all such sales and use taxes have been paid to the State of Colorado, the amounts thereof, the dates of payment, the names and addresses of the suppliers, and describing the tangible personal property so taxed and built into the structure, further stating therein where the books, records and other substantiating evidence of the payment of said taxes are located. In the event that services or materials of a subcontractor are used by the Contractor, the Contractor agrees to make the same requirements, contained above, of the subcontractor, in favor of the City. Any and all refunds claimed and received by the City shall be the property of the City, and shall not affect any bid price or contract price under the Contract.

6. Contract Binding. It is agreed that this Contract shall be binding on and inure to the benefit of the parties hereto, their heirs, executors, administrators, assigns, and successors.

IN WITNESS WHEREOF, the parties have caused these presents to be signed personally or by their duly authorized officers or agents and their seals affixed and duly attested the day and year first above written.

CITY AND COUNTY OF DENVER

W F Nichols

Mayor

ATTEST:

PAUL V. HODGES, JR., Clerk and Recorder, Ex-Officio Clerk of the City and County of Denver

By

George Monahan  
Deputy Clerk

RECOMMENDED AND APPROVED

[Signature]

Manager of Improvements and Parks

REGISTERED AND COUNTERSIGNED:

THOMAS G. CURRIGAN, Auditor of the City and County of Denver

By

Thomas G. Currigan  
Deputy Auditor

APPROVED AS TO FORM:

JOHN C. BANKS, Attorney for The City and County of Denver

By

W. N. U. [Signature]  
Assistant City Attorney

PARTY OF THE FIRST PART

Latimer Construction Company

Contractor

By

MR. Latimer  
President

ATTEST:

[Signature]

Secretary

PARTY OF THE SECOND PART

D 00491

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned

**Latimer Construction Company, a Colorado Corporation**

hereinafter referred to as "Contractor", and

**Phoenix Indemnity Company**

a corporation organized under the laws of the **State of New York**

and authorized to transact business in the State of Colorado, as Surety, are held and firmly bound unto the City and County of Denver, a municipal corporation under the laws of the State of Colorado, hereinafter referred to as the "City", in the penal sum of **One Thousand,**

**Three Hundred Twenty-Nine and 50/100**

Dollars (\$1,329.50),

lawful money of the United State of America, for the payment of which sum, well and truly to be made, we bind ourselves and our heirs, executors, administrators, successors and assigns, jointly and severally by the presents:

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT:

WHEREAS, the above bounden Contractor has, on the 9TH day of Nov, 1955, entered into written Contract with the aforesaid City for furnishing all materials, equipment, tools, superintendence, and other facilities accessories, for the construction of certain improvements as designated, defined, and described in the said Contract and the Conditions thereof, and in accordance with the Specifications and Plans therefor; a copy of said Contract being attached hereto and made a part hereof:

NOW THEREFORE, If the said Contractor shall and will, in all particulars well and duly and faithfully observe, perform and abide by each and every covenant, condition and part of said Contract, and the conditions, Specifications, Plans, and other Contract Documents hereto attached, or by reference, made a part thereof, according to the true intent and meaning in such case, then this obligation shall be and become null and void; otherwise, it shall remain in full force and effect:

PROVIDED FURTHER, That if the said Contractor fails to duly pay for any labor, materials, team hire, sustenance, provisions, provender, gasoline, lubricating oils, fuel oils, grease, coal, or any other supplies or materials used or consumed by said Contractor or his sub-contractors in performance of the work contracted to be done, the Surety will pay the same in any amount not exceeding the amount of this obligation, together with interest as provided by law:

D 00492

PROVIDED FURTHER, That the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, or the work to be performed thereunder, or the Specifications and Plans accompanying the same, shall in anywise affect its obligation on this bond and it does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or to the work, or to the Specifications and Plans.

IN WITNESS WHEREOF, said Contractor and said Surety have executed these presents this 9TH day of Nov, 19 55.

ATTEST:

T. F. Binder  
Secretary

Latimer Construction Company

Contractor

By

M. R. Latimer  
(Title)

Phoenix Indemnity Company

Surety

By

John T. Ballard Jr  
Attorney-in-fact

(Accompany this bond with Attorney-in-fact's authority from the Surety to execute the bond, certified to include the date of the bond.)

APPROVED FOR THE CITY AND COUNTY OF DENVER:

By

[Signature]  
Manager of Improvements and Parks

By

W. F. [Signature]  
Mayor

APPROVED AS TO FORM:

JOHN C. BANKS, Attorney for  
the City and County of Denver

By

W. H. Vandy  
Assistant City Attorney

D 00493

FINAL RECEIPT

\* \* \* \* \*

Denver, Colorado \_\_\_\_\_, 19\_\_\_\_.

Received this date of the City and County of Denver, as full and final payment of the cost of the improvements provided for in the foregoing contract,

\_\_\_\_\_ dollars

and \_\_\_\_\_ cents (\$\_\_\_\_\_), in

cash, being the remainder of the full amount accruing to the undersigned by virtue of said contract; said cash also covering and including full payment for the cost of all extra work and material furnished by the undersigned in the construction of said improvements, and all incidentals thereto, and the undersigned hereby releases said City and County from all claims whatsoever growing out of said contract.

And these presents are to certify that all persons doing work upon or furnishing materials for said improvements under the foregoing contract have been paid in full.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

D 00494

CITY AND COUNTY OF DENVER

DEPARTMENT OF IMPROVEMENTS AND PARKS

ENGINEERING SECTION

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STREET INTERSECTION PROJECT NO. 985  
AT EAST 46TH AVENUE AND FRANKLIN STREET

SPECIAL CONTRACT CONDITIONS

SC-1 General Description of Work. The work to be performed under these documents and the Specifications and Plans designated in Paragraphs SC-2 and SC-3 hereof consists of furnishing all labor, tools, equipment, materials and supplies for grading streets, constructing curb, gutter, concrete pavement and all work incidental thereto for STREET INTERSECTION PROJECT NO. 985 AT EAST 46TH AVENUE AND FRANKLIN STREET.

SC-2 Detailed Specifications. The detailed specifications designated "Street Paving Specifications", dated March 10, 1954, Addendum to Street Paving Specifications, dated October 20, 1955, which are included herein, shall govern the materials to be furnished and the work to be performed in the execution of the Contract.

SC-3 Plans. The plans consist of attached detail sheet for the Project and the following standard sheets:

Standard Details for Barricades	- Drawing No. 104-1-E
Standard Sidewalk and Driveway Details in Commercial Areas	- Drawing No. 104-1-V

SC-4 Insurance. Section GC-32 is revised to the following:

One certified copy of the above policies and six (6) copies of a certificate evidencing the existence thereof shall be delivered to the City's Manager of Improvements and Parks upon the execution of this Contract. Each such copy and certificate must bear the following special endorsement by the agent of the proposed insurance carrier:

"This policy will not be altered, materially changed or cancelled without giving fifteen (15) days prior written notice, via registered mail, to the Manager of Improvements and Parks of the City and County of Denver."

A valid receipt showing payment of the premium for all such insurance shall be submitted to the City by the Contractor when he signs and returns the Contract to the City for the signature of the proper City officials.

D 00495



A renewal policy shall be delivered to the City at least fifteen (15) days prior to a policy's expiration date except for any policy expiring on the expiration date of the Contract or thereafter.

- SC-5 Insurance Limits. The Contractor shall carry throughout the life of the contract the insurance called for in the General Contract Conditions in minimum limits as follows:

<u>Under Section GC-32a</u>	<u>Minimum Limits</u>
Public Liability	\$25,000/\$50,000
Property Damage	\$10,000/\$25,000
 <u>Under Section GC-32b</u>	 <u>Minimum Limits</u>
Public Liability	\$50,000/\$100,000
Property Damage	\$10,000

- SC-6 Time Limits. The Contractor shall fully complete all work covered by this Contract within thirty (30) consecutive calendar days, from the date the Contractor is authorized to proceed with the work in accordance with the provisions of Section GC-47 of the General Contract Conditions.
- SC-7 Liquidated Damages. In accordance with the provisions of Section GC-48 of the General Contract Conditions, the Contractor shall pay the City as and for liquidated damages and not as a penalty the amount of Fifty Dollars (\$50.00) for each and every day the Contractor shall be in default of completion beyond the time limit above specified, or such extension or extensions thereof as the Manager may authorize in accordance with the provisions of the General Contract Conditions.
- SC-8 Final Acceptance. Upon written request of the Contractor, the City will give final acceptance of logical areas of the district as they are completed to the satisfaction of the Engineer.
- SC-9 Additional Plans and Specifications. The Contractor for this district is entitled to five (5) complete sets of plans and specifications without charge for his use as well as the suppliers, sub-contractors or others for whom he feels plans are necessary. Additional sets of plans and specifications can be secured by Contractor at a cost of \$5.00 per set.
- SC-10 Sub-Contractors. Particular attention is invited to the last paragraph of GC-43 concerning requirements for naming in the Proposal the sub-contractors proposed on the work. Failure to so name the sub-contractors will be cause for rejection of the proposal.

CITY AND COUNTY OF DENVER

DEPARTMENT OF IMPROVEMENTS AND PARKS

ENGINEERING SECTION

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GENERAL CONTRACT CONDITIONS

August 10, 1955

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C I T Y   A N D   C O U N T Y   O F   D E N V E R

D E P A R T M E N T   O F   I M P R O V E M E N T S   A N D   P A R K S

E N G I N E E R I N G   S E C T I O N

\* \* \* \* \*

G E N E R A L   C O N T R A C T   C O N D I T I O N S

A u g u s t   1 0 ,   1 9 5 5

GC-1 SCOPE: The following conditions are general in scope and may contain requirements covering conditions that may not be encountered in the performance of the work under Contract and which for this reason are not applicable thereto. Where any stipulation or requirement set forth herein applies to any such non-existing condition, and is not applicable to the work under Contract, such stipulation or requirement will have no meaning relative to the performance of said work.

GC-2 TITLES AND SUBHEADINGS: The titles and subheadings used in the contract documents are for convenience of reference only and shall not be taken or considered as having any bearing on the interpretation of said documents.

GC-3 DEFINITION OF TERMS: Whenever the following terms, or pronouns in place of them, are used, the intent and meaning shall be as follows:

A.A.S.H.C.: The American Association of State Highway Officials.

A.S.T.M.: American Society for Testing Materials.

BIDDER: Any individual, firm or corporation submitting a proposal for the work contemplated, acting directly or through a duly authorized representative.

CITY: The City and County of Denver, State of Colorado.

CONTRACT: "Contract" or "Contract Documents": These shall consist of the following when applicable to the work in question: Notice to Owners of Real Estate, Ordinance Authorizing the Improvements, Advertisement of Notice for Proposals, Instructions to Bidders, Statement of Work, Contract, Performance Bond, Form of Final Receipt, General Conditions, Special Conditions, Specifications and Plans therein referred to, and other drawings, specifications and engineering data which may be furnished by the Contractor and approved by the Engineer, together with such instructions furnished by the Engineer from time to time as are necessary to make clear, and to define in greater detail, the intent of the Specifications and Plans. Each and all of these documents are included in the Contract and the work shall be done fully in accordance therewith.

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CONTRACTOR: Party of the Second Part to the Contract, acting directly or through his duly authorized agent or employe.

CONTRACT BOND: The approved form of security furnished by the Contractor and his Surety as a guarantee that the Contractor will complete the work in accordance with the terms of the Contract.

ENGINEER: The Engineer of the City and County of Denver, acting directly or through authorized assistants.

INSPECTOR: An authorized representative of the Engineer, assigned to make any or all necessary inspections of materials furnished and work performed by the Contractor.

LABORATORY: Any testing laboratory designated by the City to make tests of the materials and of work involved in the contract.

MANAGER: The Manager of Improvements and Parks of the City and County of Denver.

PLANS: All drawings furnished by the City as a basis for proposals; all drawings submitted to the City by the Contractor with his proposal or subsequent to award of the Contract, when and as approved by the Engineer, and all drawings submitted by the City to the Contractor during the progress of the work.

PROPOSAL: The properly executed Proposal submitted by the Bidder on the form prepared and furnished by the City for the work contemplated.

PROPOSAL GUARANTEE: The security, as designated in the "Instructions to Bidders" or in the "Proposal" furnished with the Proposal by the Bidder as a guarantee that he will enter into the Contract and furnish Bond as required if the work be awarded to him.

SIEVES: Laboratory sieves with square openings conforming with the United States standard sieve series or sizes expressed in inches.

SPECIFICATIONS: The directions, provisions and requirements attached to the Contract, or made part thereof by reference, together with all written agreements made or to be made, pertaining to materials to be furnished, the results of all work performed, the method of measurement and basis of payment under the Contract.

SPECIAL CONDITIONS: Specific written directions, provisions and requirements concerning the particular work contracted which are not covered by the Plans and Specifications but which are anticipated.

SUPERINTENDENT: Executive representative for the Contractor present on the work at all times, authorized to receive and fulfill instructions from the Engineer and capable of superintending the work efficiently.

SURETY: The corporate body which is bound with the Contractor for the acceptable performance of the Contract and completion of all of the work thereunder.

WORK: The construction of the Items called for in the Contract.

- GC-4 CHARTER, LAWS AND ORDINANCES: The Contractor shall at all times observe and comply with the provisions of the Charter, Ordinances and Regulations of the City and County of Denver and of State and Federal Laws, Rules and Regulations which in any manner limit, control, or apply to the actions or operations of the Contractor, his sub-contractors, or his or their employes, agents or servants, engaged upon the work or affecting the materials supplied to or by them.
- GC-5 MINIMUM WAGES AND MAXIMUM HOURS OF WORK. The Contractor shall pay all laborers he may engage in carrying out this Contract at wage rates not less than the minimum being paid by the City to its employes performing similar services and shall further comply with all Federal, State and Municipal acts, laws, ordinances, rules and regulations as to minimum wages and maximum hours of work.
- GC-6 CHARACTER OF WORKMEN: All workmen employed under this Contract shall be competent to perform work assigned to them and, in the case of skilled labor, who are adequately trained in their respective trades and who do satisfactory work. Whenever the Engineer shall notify the Contractor that any man on the work, is in his opinion, incompetent, unfit or disorderly, or who uses threatening or abusive language to any person, including persons representing the City on the work, such man shall immediately be discharged from the work and shall not be re-employed thereon except with the consent of the Engineer.
- GC-7 INTENT OF SPECIFICATIONS AND PLANS: The said specifications and plans are intended to supplement, but not necessarily duplicate each other, and together constitute one (1) complete set of specifications and plans, so that any work exhibited in the one and not in the other shall be executed just as if it had been set forth in both, in order that the work shall be completed according to the complete design or designs as decided and determined by the Engineer. Should anything be omitted from the Specifications and Plans which is necessary to a clear understanding of the work, or should it appear that various instructions are in conflict, then the Contractor shall secure written instructions from the Engineer before proceeding with the construction affected by such omissions or discrepancies.
- GC-8 WORK NOT SPECIFIED BUT INCLUDED: Any work not specifically set forth in the Plans and Specifications but which may be fairly implied as included, in the opinion of the Manager, shall be done by the Contractor without extra charge.
- GC-9 DIMENSIONS SHOWN TO GOVERN: Dimensions and elevations shown on the Plans shall be accurately followed and take precedence over scaled measurements.

If the necessary dimensions are not indicated on the Plans, no work affected thereby shall be performed until the required dimensions have been obtained from the Engineer.

- GC-10 LINES AND GRADES: All work done under this Contract shall be done to the lines, grades and elevations shown on the Plans or established by the Engineer. The Contractor shall keep the Engineer informed a reasonable time in advance of the times and places at which he wished to do work, in order that lines and grades may be furnished and necessary measurements for record and payment may be made with a minimum of inconvenience to the Engineer and of delay to the Contractor.
- GC-11 WORK DONE WITHOUT LINES OR GRADES: Any work done without being properly located and established by base lines, offset stakes, bench marks, or other basic reference points located, established, or checked by the Engineer may be ordered removed and replaced at the Contractor's cost and expense.
- GC-12 PRESERVATION OF MONUMENTS AND STAKES: The Contractor shall be held responsible for the proper preservation of all monuments, bench marks, reference points, and stakes. If in the opinion of the Engineer, any of them have been willfully or carelessly disturbed or destroyed by the Contractor or his employes, the cost of replacing them will be charged against the Contractor, who will not be granted an extension of time or allowed any damages for delays resulting from such disturbance or destruction.
- In case of any permanent monuments or bench marks which must of necessity be removed or disturbed in the construction of the work, the Contractor shall protect and preserve the same in their original location and condition until they can be properly referenced for relocation. The Contractor shall furnish, at his own expense, such materials and assistance as are necessary for the proper replacement of monuments, bench marks, reference points and stakes that have been moved or destroyed.
- GC-13 PROTECTION OF WORK: The Contractor will be held responsible for the care, protection, and condition of all work until final completion and acceptance thereof, and will be required to make good at his own cost any damage or injury occurring from any cause.
- GC-14 INDEPENDENT CONTRACTOR: The right of general supervision of the City as hereinafter provided under "Authority of the Engineer" shall not make the Contractor an agent or employe of the City, but the Contractor shall at all times, and in all respects have the rights and liabilities of an independent contractor.
- GC-15 RELATIONS WITH OTHER CONTRACTORS: The Contractor shall cooperate with all other contractors for and workmen of the City, including construction forces of the Board of Water Commissioners, and public utility company forces, who may be performing other work at or in the vicinity of the work hereby contracted, and shall so conduct his operations as to interfere to the least possible extent with the work of such other contractors or workmen. Any difference or conflict which may arise between the Contractor and such other contractors or workmen in regard to their work shall be adjusted and determined by the Engineer. If the work of the Contractor is delayed because of any acts or omissions of such other contractors or workmen, the Contractor shall have

no claim against the City on that account other than for an extension of time. When the work under two or more contracts is being executed at one time in such manner that work on one contract may interfere with that on another, the Engineer shall decide which contractor shall cease work and which shall continue, or whether the work on both contracts shall progress at the same time, and in what manner. When the territory of one contract is the necessary or convenient means of access for transportation or movement of men, materials, or appliances required for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the Engineer to the extent, manner and at the time which may be reasonably necessary.

- GC-16 METHODS OF OPERATION: The Contractor shall give to the Engineer full information in advance as to his plans for carrying out any part of the work. If at any time before the beginning or during the progress of the work, any part of the Contractor's plant or equipment or any of his methods of executing the work appear to the Engineer to be unsafe, inefficient, or inadequate to insure the required quality, rate of progress or safety of the work, he may order the Contractor to increase or improve his facilities or methods, and the Contractor shall promptly comply with such orders; but neither compliance with such orders nor failure of the Engineer to issue such orders shall relieve the Contractor from his obligation to secure the degree of safety, the quality of work, and the rate of progress required by this Contract. The approval by the Engineer of any plan or method of work proposed by the Contractor shall not relieve the Contractor of any responsibility therefor, and such approval shall not be considered as an assumption by the City, or any officer, agent or employee thereof, of a risk or liability, and the Contractor shall have no claim under this contract on account of the failure or inefficiency of any plan or method so approved. Such approval shall be considered and shall mean that the Engineer has no objection to the Contractor's use or adoption, at his own risk and responsibility, of the plan or method so proposed by the Contractor.
- GC-17 SUGGESTIONS TO CONTRACTOR: Any plan or method of work suggested by the Engineer, or any other representative of the City, to the Contractor, if adopted or followed by the Contractor in whole or in part, shall be used at the risk and responsibility of the Contractor; and the Engineer and the City will assume no responsibility therefor.
- GC-18 SUPERINTENDENCE OF WORK: The Contractor shall provide and maintain continually on the site of the work during its progress, adequate and competent superintendence of all operations for and in connection with the work being performed under this Contract, either personal or by a duly authorized superintendent or other representative. The superintendent or other representative of the Contractor on the work shall be fully authorized to act for the Contractor.
- GC-19 ORDERS TO CONTRACTOR'S AGENT: When the Contractor is not present on any part of the work where it may be desired to give directions, orders may be given by the Engineer or his representative to, and shall be received and obeyed by, the superintendent or foreman who may have charge of the particular part of the work in reference to which such orders are given.
- GC-20 PROTECTION OF PROPERTY: The Contractor shall assume full responsibility and expense for the protection of all public and private property, structures,



water mains, sewers, utilities, etc., both above and below ground, at or near the site or sites of the work being performed under the Contract, or which are in any manner affected by the prosecution of the work or the transportation of men and materials in connection therewith. The Contractor shall give reasonable written notice in advance to the Department of the City having charge of any property or utilities owned by the City and to other owner or owners of public or private property or utilities when they will be affected by the work to be performed under the Contract and shall make all necessary arrangements with such Department, Departments, owner or owners for the removal and replacement or protection of such property or utilities.

- GC-21 PUBLIC RELATIONS: The Contractor shall carry on this work in such manner as to cause as little inconvenience to the public, particularly to occupants of property along the project, as is consistent with good workmanship. He shall notify occupants at least twenty-four (24) hours in advance of proposed work that may block entrances or otherwise cause undue difficulty to occupants of property affected and shall restore such entrances to usable condition as soon as possible. The Contractor, his sub-contractors and employees shall at all times be courteous to the public while engaged upon this work.
- GC-22 MAINTENANCE OF TRAFFIC AND DRAINAGE. All work shall be coordinated so as to avoid the closing of streets or public ways for undue periods of time. During the progress of the work, the Contractor shall provide free access to fire hydrants, water and gas valves. Gutters and waterways must be kept open or other suitable provisions made for the removal of storm water. The Contractor shall build and maintain temporary driveways, bridges, and crossings, such as in the opinion of the Engineer are necessary to reasonably accommodate the public. In the event of the Contractor's failure to comply with the foregoing provisions, the City may without notice, cause the same to be done, and deduct the cost of such work from any money due or to become due the Contractor under this Contract. Performance of such work by the City, shall serve in nowise to release the Contractor from his general or particular liability for the safety of the public or the work. The Contractor shall at all times and without delay keep the Project Engineer, who is in charge of the work, fully informed concerning streets that are closed or to be closed and when they are to be reopened.
- GC-23 BARRICADES AND WATCHMEN: The Contractor shall erect and maintain warning signs, barricades and sufficient safeguards around all excavations, embankments, and obstructions; shall provide red or other suitable warning lights or flares on or near the work and keep them lighted at night or other times when visibility is limited; and shall employ such watchmen as may be necessary for the protection of the public. These requirements, and all requirements herein pertaining to safeguards in public thoroughfares, shall be in accordance with "Minimum Requirements for Warning Devices to be Used for Work Performed in the Public Thoroughfares of the City and County of Denver, Colorado", issued December 4, 1952, by the City Engineer, or the most recent revision thereof.
- GC-24 CLOSING OF STREETS: No street or alley shall be closed to the public by the Contractor except as authorized by the Engineer and in accordance with procedures outlined herein. Whenever, in the prosecution of the work, the Contractor finds it necessary to close a street to traffic, it is required that he advise the Project Engineer as many days in advance of the closing

as practicable, and in all cases involving normal prosecution of the work and convenience of the Contractor, the closing notice must be given to the Project Engineer at least forty-eight (48) hours in advance of the time when the street requires closing. In cases of emergency involving conditions over which the Contractor has no control, it will be agreeable to authorize the closing of streets upon order of the Engineer. In these cases the Contractor is required to give notice of the emergency conditions with the least possible delay.

- GC-25 DETOURS: Wherever streets or alleys are closed as provided herein, it will be the sole responsibility of the Contractor to adequately mark and light detours determined upon between the Contractor and the Engineer after consultation with the Traffic Engineering Section, and in accordance with standard details indicated on plans for this project.

Wherever detours are required over areas other than on established City streets, it shall be the responsibility of the Contractor to secure all necessary permission from the property owners involved prior to establishing such detours. Traffic shall not be routed over such detour until it has been bladed and shaped in such a way as to provide a reasonably safe and convenient roadway to the traveling public. Where detours are established over such areas or over unpaved City streets, it shall be the responsibility of the Contractor to maintain such detours with a minimum of inconvenience to the adjoining property owners. Full provision shall be made by the Contractor for minimizing inconvenience from dust.

- GC-26 TRAFFIC MAINTAINED OVER CONSTRUCTION: Where traffic is maintained along the street or alley under construction, particular care shall be used to shape and maintain the roadbed so that a safe and convenient roadway is available to the traveling public. Ramps from undisturbed streets into excavated areas shall be maintained for traffic on gradual grades and in no case shall a ramp be steeper than a 6:1 slope. The Contractor shall make full provisions for minimizing inconvenience from dust. Marking and lighting the route shall be in accordance with standard details indicated on the plans for the district. During periods when actual construction is not in progress, streets shall be properly maintained and dust control measures shall be employed.

- GC-27 COST OF SAFETY PROVISIONS: All costs of barricades, warning signs, lights, watchmen, other safety devices, dust abatement, detours, and other work in connection with protection of persons and property will not be paid for directly but shall be considered to be included in the original contract prices for the district.

- GC-28 PROTECTION OF STREET SIGNS, TRAFFIC SIGNS AND SIGNALS: Street signs, traffic signs, signals and other traffic control devices erected by the City for information and to safeguard traffic must be protected by the Contractor. Where it is necessary to disturb or remove any of these items, the Contractor shall secure approval of the Engineer prior to any such work, this approval to be based on concurrence and requirements from the Traffic Engineering Section.

- GC-29 PERMITS AND LICENSES: All permits and licenses required in the prosecution of the work shall be obtained and paid for by the Contractor.

GC-30 WORKMEN'S COMPENSATION: The Contractor and his sub-contractors shall comply with the Workmen's Compensation Act of Colorado and shall provide compensation insurance to protect the Contractor, his sub-contractors and the City from and against any and all Workmen's Compensation claims arising from performance of the work under the contract. The City shall be furnished, prior to undertaking any work, five (5) copies of the certificate or certificates evidencing such insurance to be in effect.

GC-31 LIABILITY: The Contractor shall indemnify and save harmless the City against any and all damages to property or injuries to or death of any person or persons, including property and employees or agents of the City, and shall defend, indemnify and save harmless the City from any and all claims, demands, suits, actions or proceedings of any kind of nature, including Workmen's Compensation claims, of or by anyone whomsoever, in any way resulting from or arising out of the operations in connection herewith, including operations of sub-contractors and acts or omissions of employees or agents of the Contractor or his sub-contractors. Insurance coverage specified herein and in the Special Conditions constitutes the minimum requirements and said requirements shall in no way lessen or limit the liability of the Contractor under the terms of the Contract. The Contractor shall procure and maintain, at his own cost and expense, any additional kinds and amounts of insurance that, in his own judgment, may be necessary for his proper protection in the prosecution of the work.

GC-32 INSURANCE:

- a. The Contractor shall maintain during the life of this Contract, Public Liability and Property Damage Insurance, acceptable to the City, covering the work contracted and all operations in connection herewith, and whenever any of the work covered in the contract is to be sublet, Contractor's Contingent or Protective Liability and Property Damage Insurance. Such insurance shall provide limits not less than those called for in the Special Conditions.
- b. Whenever the work covered by the Contract shall involve the use of automotive equipment, the Contractor shall maintain during the life of the Contract, Automotive Public Liability and Property Damage Insurance in limits not less than those specified in the Special Conditions to protect the Contractor from any and all claims arising from the use of the following in the execution of the work included in the contract:
  - (1) Contractor's own automobiles and trucks.
  - (2) Hired automobiles and trucks.
  - (3) Automobiles and trucks not owned by the Contractor.

Such insurance shall cover the use of automobiles and trucks both on and off of the site of the project.

- c. Five certified copies of the foregoing policies or five (5) copies of a certificate evidencing the existence thereof shall be delivered

to the City's Manager of Improvements and Parks upon the execution of this Contract. Each such copy or certificate shall contain a valid provision or endorsement that the policy may not be cancelled, terminated, changed or modified without first giving ten (10) days' written notice to the City, which notice must be sent by registered mail, return receipt requested, to the City's Manager of Improvements and Parks. Any renewal policy shall be delivered to the City at least fifteen (15) days prior to a policy's expiration date except for any policy expiring on the expiration date of the Contract or thereafter.

GC-33 SALES AND USE TAXES: The Contractor and all of his sub-contractors must pay all sales and use taxes levied by the State of Colorado and the City and County of Denver on any tangible personal property built into or incorporated into the work. Within ten (10) months after such payment of the State sales tax is made and before final payment is made by the City, the Contractor will be required to furnish the City with an itemized statement of the tangible personal property upon which said tax has been paid. This statement shall include the names and addresses of the suppliers, the amounts of such taxes, and the dates of payment, plus such supplementary information as the City may from time to time request. It shall be certified and duly acknowledged and shall cover work done by the Contractor and any sub-contractor working under him. Any bid shall include all such taxes, with no adjustment for any refund the City may receive. Nothing herein nor in the Contract Documents shall be deemed to exempt the Contractor or any sub-contractor from payment of the City's Sales Tax.

GC-34 BLASTING AND OTHER HAZARDOUS WORK: No blasting or other hazardous work shall be done by the Contractor or sub-contractors without a written permit, issued by the Engineer. Before issuance of such permit, the Engineer may require evidence of adequate liability insurance coverage secured at the Contractor's expense, for collapse, explosion, blasting, and damage to underground pipes, wires, conduits and other structures.

GC-35 AUTHORITY OF THE MANAGER: The Manager shall be the final representative of the City in all matters concerning the Contract and the work to be performed thereunder. He shall have authority to order suspension of the work; to extend the time for completion; to order additional work, modifications and alterations; and with the Mayor of the City, to terminate the Contract as elsewhere herein provided. All work shall be done to the satisfaction of the Manager before final payment is made to the Contractor.

The Manager shall make the final decision on all questions as to acceptable fulfillment of the Contract, all disputes between the Contractor and the Engineer as to performance or fulfillment of the Contract, and all questions as to compensation for work, including extra work performed. The Manager shall have executive authority to make effective all decisions and to force the Contractor or contractors to carry out all orders promptly.

The Manager may assume exclusive control of the place of performance of this Contract or any part thereof whenever such place of performance shall be located in or upon property belonging to the City. Moreover, the City reserves the right at any time to let other contracts in the area or areas

covered by the work included in this Contract; and the City, its other independent contractors, its agents and employees may enter upon or occupy any part or all the property owned by the City to the extent ordered by the Manager.

GC-36 AUTHORITY OF THE ENGINEER: The Engineer, under the authority and direction of the Manager, is to exercise general supervision for the City of all work covered by the Contract. He shall furnish all explanations, directions and stakes required for the work; shall decide any and all questions which may arise as to the quality and acceptability of the materials furnished, the work performed, the manner of performance and the rate of progress of the work; shall decide all questions that may arise as to the interpretations of the plans and specifications; and shall authorize extra work. He shall appoint such inspector or inspectors as are deemed necessary by him for the proper inspection of all materials used and all work done under the contract in order that the work may be carried out and completed to the satisfaction of the Manager.

GC-37 AUTHORITY AND DUTIES OF INSPECTORS: Inspectors may be assigned by the Engineer as his authorized representatives to inspect all materials used and all work done under the Contract. Such inspection may extend to all or any part of the work and to the preparation or manufacture of the materials to be used. The Inspectors will not be authorized to revoke, alter, enlarge or relax the provisions of the Plans and Specifications, nor to delay the fulfillment of the Contract by failure to inspect materials and work with reasonable promptness. An Inspector is assigned on the work to keep the Engineer informed as to the progress of the work and the manner in which it is being done; also to call the attention of the Contractor to any infringement upon the Plans and Specifications. He will not be authorized to approve or accept any portion of the work, to issue instructions contrary to the Plans and Specifications, or to act as a foreman for the Contractor. The Inspector will have full authority to reject defective material and work subject to the final decision of the Engineer.

GC-38 INSPECTION OF WORK: The Engineer and Inspectors shall at all times have the right to inspect the work and materials. The Contractor shall furnish all reasonable aid and assistance required by the Engineer or Inspectors for the proper examination of the work and all parts thereof. No work shall be done or materials used without suitable supervision or inspection by the Engineer or the Inspector, and no work shall be covered up or backfilled without the approval or consent of the Engineer after inspections are completed.

The Contractor shall regard and obey the directions and instructions of the Engineer and Inspectors when the same are consistent with the Plans and Specifications and obligations under the Contract; provided however, that should the Contractor object to any order given by an Inspector, the Contractor may make written application to the Engineer for his decision. Such inspection shall not relieve the Contractor from any obligation to perform said work strictly in accordance with the Plans and Specifications or any modifications thereof.

GC-39 SUNDAY, HOLIDAY AND NIGHT WORK: Whenever work is to be performed at night, on Sundays, or Legal Holidays, or at different periods during daytime other

than ordinary working hours, the Contractor shall advise the Engineer in advance so that proper inspection may be provided, except for such work as may be necessary for proper care, maintenance and protection of work already done or of equipment, or in case of emergency. Night work may be established by the Contractor as a regular procedure with the written permission of the Engineer; such permission, however, may be revoked at any time by the Engineer if the Contractor fails to maintain at night adequate equipment for the proper prosecution, control, and inspection of the operations performed thereunder.

In case the Contractor finds it necessary to work on Saturdays, he shall advise the Engineer at least 48 hours ahead of such work period. No work shall be done on Sundays, Holidays, or at night outside of usual daytime working hours, except in emergencies beyond the Contractor's control, whereby the work would be endangered, or hazards to life or property would result. The Contractor shall give the Engineer all possible advance warning of such emergency work period.

GC-40 REMOVAL OF CONDEMNED MATERIALS AND WORK: The Contractor shall remove from the site of work without delay all rejected and condemned materials and work. Upon failure of the Contractor to remove and properly dispose of the rejected material or work immediately after receiving formal notice to do so, the Engineer may have such material or work removed and charge the cost of same to the Contractor.

GC-41 MODIFICATIONS AND ALTERATIONS: The Manager shall have the right by notifying the Contractor in writing thereof, to make such modifications, changes, and alterations as he deems necessary and proper in the arrangement, extent or plan of the work to be done, or any part thereof, or in the materials to be used therein, either before or after the beginning of construction thereof, without affecting the validity of the Contract and the Performance Bond thereunder. Any variations from the Contract price or prices resulting therefrom shall be adjusted in similar manner to that hereafter provided for the payment of "Extra Work". In case the Manager shall make any modifications, changes or alterations which would replace or otherwise make useless any work already done under the terms of the Contract, the City shall reimburse the Contractor for actual costs, as determined by the Engineer, of any material used or labor performed in connection therewith, including expenses incurred in preparation for the work as originally planned or in removing work already in place.

GC-42 EXTRA WORK: The term "Extra Work" shall be understood to mean work required in writing by the Engineer to be performed by the Contractor that is not specifically covered in the Plans, Specifications or other contract documents or that may not be fairly implied as being included therein, such as changes, alterations and additions thereto. Such extra work shall be subject to and be performed in accordance with the provisions and requirements of the contract documents under the general supervision of the Engineer and to the satisfaction of the Manager and shall be paid for by one or more of the following methods as the case may be:

Method A - By unit prices for the same class of work included in the Contract.

Method B - By agreed unit prices; or

Method C - By agreed lump sum; or

Method D - If neither Method "B" or "C" be agreed upon before the extra work is started, then the Contractor shall be paid the "actual field cost", of the work plus fifteen (15) per cent.

Where extra work is performed under Method "D", the term "actual field cost" of such extra work is hereby defined to be and shall include: (a) The cost of all workmen such as foremen, timekeepers, mechanics and laborers; (b) All materials and supplies; (c) All teams, trucks and rentals on machinery and equipment for the time actually employed or used in the performance of the said extra work; (d) Any transportation charges necessarily incurred in connection with any equipment authorized by the Engineer for use on said extra work which is not already on the job; (e) All power, fuel, lubricants, water and similar operating expenses; (f) All incidental expenses incurred as a direct result of such extra work, including payroll taxes and a ratable portion of premium on performance bond and, where the premiums therefor are based on payroll costs, on Public Liability and Property Damage, Workmen's Compensation and other insurance required by the Contract. The Engineer may direct the form in which accounts of the actual field costs shall be kept and may also specify in writing, before the work commences, the method of doing the work and the type and kind of machinery and equipment, if required, which shall be used in the performance of extra work under Method "D". In the event that machinery and heavy construction equipment be required for such extra work, the authorization and basis of payment for the use thereof shall be stipulated in the written extra work order. The fifteen per cent (15%) of the actual field cost to be paid to the Contractor shall cover and be full compensation for the Contractor's profit, overhead, general superintendence and field office expense and all other elements of cost not embraced within the "actual field cost" as herein defined.

No claim for extra work of any kind may be allowed unless the work was ordered in writing by the Engineer. In case any orders or instructions, either oral or written, appear to the Contractor to involve extra work for which he should receive compensation, he shall make a written request to the Engineer for a written order authorizing such extra work. Should a difference of opinion arise as to what does or does not constitute extra work, or concerning the payment thereof, and the Engineer insists on its performance, the Contractor shall proceed with the work after making a written request to the Engineer for a written order authorizing such extra work. Should a difference of opinion arise as to what does not constitute extra work, or concerning the payment thereof, and the Engineer insists on its performance, the Contractor shall proceed with the work after making a written request for a written extra work order and shall keep an accurate account of the actual field cost thereof as provided for Method "D" in the foregoing paragraph. The Contractor will thereby reserve the right to submit the matter of payment to the Manager for final determination.

GC-43 ASSIGNMENT AND SUBLETTING: The Contractor shall not assign or sublet the whole or any part of the contract without the prior written consent of the Manager. In no case shall the Contractor be permitted to sublet more than

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fifty per cent (50%) of the total amount of the Contract, unless otherwise specified in the Special Conditions. The Contractor shall be directly responsible for the quality and performance of the work sublet, and, if any sub-contractor shall fail to perform the work undertaken by him in a manner satisfactory to the Manager, his sub-contract shall be immediately terminated by the Contractor upon written notice from the Manager. Nothing contained in the contract documents shall create any contractual relation between any sub-contractor and the City.

The Bidder shall state in his Proposal the particular items of work which he proposes to sublet and shall name therein the sub-contractor to whom he proposes to sublet such work in the event of an award to him. Such item or items of work may be performed by such sub-contractor provided the sub-contractor named in the Proposal is a contractor of recognized standing, has a record of satisfactory performance, and the work proposed to be sublet does not exceed fifty per cent (50%) of the total amount of the Contract or as otherwise allowed in the Special Conditions. Any bidder who names a sub-contractor in his Proposal shall include therein a certificate that the use of the name of such sub-contractor is with his knowledge and consent. The name of a sub-contractor in any such proposal will not insure approval of the proposed subletting of work to him and in the event of disapproval of such subletting, the Contractor shall perform such item or items of work with his own organization in full compliance with all applicable terms of the Contract.

GC-44 NO WAIVER OF RIGHTS: No assent, expressed or implied, to any breach of any one or more of the covenants, provisions and agreements of the contract documents shall be deemed or taken to be a waiver of any succeeding or other breach.

GC-45 SUSPENSION OF WORK: When the Manager so orders in writing, the Contractor shall delay or suspend the progress of the work or any part thereof, for such periods of time, due to inclement weather or other causes, as the Manager may require, in which event the time for completion set forth in the contract documents shall be extended by the number of calendar days of such ordered suspension or suspensions, but such order by the Manager shall not otherwise modify or invalidate in any way any of the provisions of the Contract. In the event that work is suspended by such order of the Manager, any added expense which in the opinion of the Engineer is caused thereby, shall be paid to the Contractor by the City.

GC-46 EXTENSION OF TIME: The Contractor shall be considered as having taken into account when submitting his Proposal, which becomes a part of the Contract, all hindrances and delays incident to such work whether growing out of delays in securing materials or workmen, or otherwise, or due to normal unfavorable or inclement weather, and will not be granted an extension of time on account thereof. The right of the Contractor to proceed shall not be terminated, nor will the Contractor be charged with liquidated damages because of any delays in the completion of the work due to other causes that are beyond the control of the Contractor and which the Engineer shall decide could not have been anticipated or avoided, but an extension of time shall be granted by the Manager, the amount of such extension of time to be determined by the Engineer; provided however, that the Contractor shall give the Engineer notice in writing at the time of such delay and the cause thereof.



GC-47 BEGINNING, PROGRESS, CONSTRUCTION PRIORITIES AND TIME OF COMPLETION: The Contractor shall start the work within ten (10) calendar days after being notified to do so in writing by the Engineer; shall prosecute the same at such place or places as the Engineer may from time to time direct, and shall fully complete in every detail all the work to be done under the Contract within the time limit set forth in the Contract, or any extension or extensions thereof as provided for under "Suspension of Work" and "Extension of Time".

Construction preference shall be given to those streets upon which business properties front, and this work shall be expedited with all possible speed. Also, as determined and ordered by the Engineer, the Contractor shall give the highest priority to the construction requiring early completion, and shall actively and continuously prosecute such construction to completion before opening up other work under the Contract.

GC-48 LIQUIDATED DAMAGES: Time is the essence of the Contract. In the event the Contractor shall fail in the performance of the work specified and required to be performed within the time limit set forth in the Contract, after due allowance for any extension or extensions of time made in accordance with provisions hereinbefore set forth, the Contractor shall be liable to the City, as liquidated damages and not as a penalty, in the amount stipulated therefor in the Special Conditions or in other contract documents for each and every calendar day that the Contractor shall be in default of completion. The City shall have the right to deduct said liquidated damages from any amount due, or that may become due the Contractor, or to collect such liquidated damages from the Contractor or his surety.

GC-49 TERMINATION OF CONTRACT BY CITY: If the work to be performed under the Contract is assigned by the Contractor other than provided for herein; if the Contractor should be adjudged a bankrupt; if a general assignment of his assets be made for the benefit of his creditors; if a receiver should be appointed for the Contractor or any of his property; if at any time the Engineer shall certify in writing to the Manager that the performance of the work under the Contract is being unnecessarily delayed or that the Contractor is willfully violating any of the conditions, provisions, or covenants of the Contract, Plans or Specifications, or that he is executing the same in bad faith or otherwise not in accordance with the terms of the Contract; if the work be not fully completed within the time named for its completion or within the time to which such completion date may be extended; or if other just causes exist, then the Manager may serve ten (10) days written notice upon the Contractor of the intent to terminate the Contract for the City and if the Contractor shall not, prior to the effective date of termination set forth in such notice, take such measures as will, in the judgment of the Manager, insure the satisfactory performance of the work, the Mayor of the City and the Manager may declare the Contract terminated on the effective date specified in such notice, or any date subsequent thereto. In the event of such termination, the Manager shall notify the Contractor to discontinue all work under the Contract and the Contractor shall immediately respect such notice and stop work and cease to have any right to the possession of the ground and shall forfeit his Contract. Upon such termination, the Manager for the City may take possession of all such materials, equipment, tools and plant as may be on the site of the work and required or necessary for completion

of the work and take over the work and prosecute the same to completion, by Contract or otherwise, for the account and at the expense of the Contractor, and the Contractor and his Surety shall be liable to the City for any and all costs and expenses in excess of the contract price or prices sustained by the City by reason of such prosecution and completion, including all administrative costs in connection therewith.

- GC-50 PATENTS: It shall be the burden and responsibility of the Contractor to determine in advance of submission of his Proposal the existence of any patent which is in anywise infringed by the Plans and Specifications. The Contractor shall include, or be considered as having included, in the price or prices in his Proposal, which becomes a part of the Contract, sufficient to cover all fees, royalties and claims for any patent rights or any material, machine, appliances or any arrangement that may be used upon or in any manner connected with the work or appurtenant thereto. If the Contractor is required or desires to use any design, device, material or process covered by letters, patent or copyright, he shall provide for such use by suitable written agreement with the patentee or patent owner, and such agreement shall provide that there shall be no future or continuing royalty or payments by the Contractor or the City. The Contractor and the Surety shall, at all times, defend, save harmless and indemnify the City from and against all such fees, royalties and claims, or suits in connection therewith, by reason of any infringement or alleged infringement of such patent rights or copyrights.
- GC-51 CLEANING UP: The Contractor shall remove and clean up all rubbish, debris, excess material, temporary structures, tools and equipment from streets, alleys, parkways and adjacent property that may have been used or worked on by the Contractor in connection with the project promptly as each section or portion is completed and ready for use, leaving the same in a neat and presentable condition. Payment of monthly or partial estimates may be withheld until this has been done to the satisfaction of the Engineer. Final acceptance and payment for the entire project will not be made until this has been fully taken care of.
- GC-52 CONTRACTOR'S GUARANTEE: During a period of one year from and after the final acceptance of the work except as provided herein, the Contractor shall, at his own expense, make all needed repairs or replacements due to defective workmanship or materials which, in the judgment of the Engineer, shall become necessary during such period. If within ten (10) days after the mailing of a written notice by the Manager to the Contractor, or his agent, requesting such repairs or replacement, the Contractor shall neglect to make or undertake with due diligence to make the same, the City may make such repairs at the Contractor's expense; provided, however, that in the case of emergency where, in the judgment of the Manager, delay would cause serious loss or damage, repairs or replacement may be made without notice being sent to the Contractor, and the Contractor shall pay the cost thereof.

The Contractor shall further guarantee that the street and alley paving shall remain in good order and repair for a period of five (5) years from all causes arising from defective workmanship and materials, and to make all repairs arising from said causes during such period without further compensation, and shall guarantee the concrete curbs, gutters and sidewalks against defective

workmanship and materials, and shall keep the same in good order and repair without further compensation for a period of two (2) years from and after completion and acceptance thereof by the Manager. The determination of the necessity for the repair or replacement of said paving, curbs, and sidewalks or any portion thereof, shall rest entirely with the Manager, whose decision upon the matter shall be final and obligatory upon the Contractor.

Specific portions of the work shall be further guaranteed by the Contractor in accordance with the provisions set forth in the Special Conditions and other contract documents.

- GC-53 PLACING WORK IN SERVICE: If desired by the Manager, portions of the work may be placed in service when completed and the Contractor shall give proper access to the work for this purpose. Such use or operation shall not constitute an acceptance of such portions of the work, but the Contractor shall be responsible for the care and condition of the same until final completion and acceptance of all the work.
- GC-54 PERFORMANCE BOND: The Performance Bond executed by the Contractor and Surety shall be a guarantee (a) for the faithful performance and completion of the work in strict accordance with the terms of the Contract, and each and every covenant, condition and part thereof, according to the true intent and meaning of the contract documents as herein defined, (b) for the repair, or replacement where required, or the cost thereof, of all work performed under the terms of the Contract and in accordance with the provisions of Contractor's Guarantees, Special Conditions, or other contract documents, and (c) for the guarantee of the payment of all persons performing labor and furnishing materials, supplies, tools and equipment in connection with the work performed under the Contract.
- GC-55 ESTIMATED QUANTITIES: The Contractor shall understand that the quantities set forth on the Statement of Work, the Proposal, or other contract documents are only approximate and that during the progress of the work, the City may find it advisable and shall have the right to omit portions of the work and to increase or decrease the quantities, and reserves the right to add to or take from any items as may be deemed necessary or desirable. Under no circumstances or conditions will the Contractor be paid anything on account of anticipated profits upon the work or any portion thereof covered by the Contract which is not actually performed.
- GC-56 MONTHLY ESTIMATES AND PAYMENTS: On or about the first day of each month the Engineer will make an approximate estimate of the value of the work done and unused materials delivered for and stored on the site of the work during the previous calendar month. The Contractor shall furnish to the Engineer such detailed information as he may request to aid him as a guide in the preparation of monthly estimates. After each such estimate shall have been certified by the Engineer and approved by the Manager and Mayor, the City shall pay to the Contractor ninety per cent (90%) of the amount of such estimated sum on or about the twenty-fifth (25th) day of said month. If the City shall at any time fail to make the Contractor a monthly payment at the time herein specified, such failure shall not be held to vitiate or void this Contract.

- GC-57 COMPLETION AND ACCEPTANCE OF WORK: Upon completion of the work, the Engineer shall satisfy himself, by examination and test, that the work has been fully completed in accordance with the plans, specifications and contract documents. When the Engineer is so satisfied, he shall recommend acceptance thereof to the Manager, who shall, if he agrees with such recommendation, advise the Contractor in writing of acceptance of the work.
- GC-58 FINAL ESTIMATE AND PAYMENT: After the Manager has accepted the work, he shall authorize the Engineer to prepare a final estimate of the work done under the Contract and the value thereof, including all extra work properly authorized and performed in connection therewith. All prior estimates and payments shall be subject to correction in the final estimate and payment; but in the absence of error or manifest mistake, it shall be understood that all estimates, when approved by the Manager and the Mayor, shall be conclusive evidence of the work done and materials furnished. From the total amount of the final estimate, there shall be deducted first, all previous payments made to the Contractor under the Contract and second, all damages and other charges properly chargeable to the Contractor under the terms of the Contract, and the balance, if any, shall be paid to the Contractor; provided, however, that prior to delivery to the Contractor of the final payment, the Contractor shall first furnish the City proof in documentary form that all claims, liens, or other obligations incurred by him and all of his sub-contractors in connection with the performance of the work have been properly paid and settled. This information shall be in affidavit form and shall bear the authorization of the Surety on the Performance Bond for the City to make final settlement with the Contractor. Also at the time of delivery to the Contractor of the final payment, the Contractor shall execute and give to the City a Final Receipt in the form incorporated in the contract documents.
- GC-59 LIMITATION OF TOTAL PAYMENTS: In accordance with the provisions of the Charter, the total aggregate payments to the Contractor for the work under the Contract shall not exceed the aggregate estimate of the Engineer or the amounts appropriated for the work.
- GC-60 COMPLAINTS OF PROPERTY OWNERS: Upon complaint of the owner of any of the real estate to be assessed for this improvement that it is not being constructed in accordance with the Contract, the Manager shall consider the complaint and thereupon make such order in the premises as he may deem just, and the decision of said Manager shall be final.

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CITY AND COUNTY OF DENVER

DEPARTMENT OF IMPROVEMENTS AND PARKS

ENGINEERING SECTION

\* \* \* \* \*

ADDENDUM NO. 1 TO STREET PAVING SPECIFICATIONS

(For Street Intersection Project No. 985  
At East 46th Avenue and Franklin Street)

October 20, 1955

1. HAULING EXCAVATED MATERIAL.

In lines 8 and 9 of Paragraph 1.3 of the Specifications the term "in the vicinity" is construed to mean within a haul distance of one (1) mile.

2. CONCRETE PAVING.

2.1-Description and Requirements. Where indicated by the plans and as staked by the Engineer, the Contractor shall construct concrete pavement. Concrete work shall be done in accordance with requirements of "Item 9, Concrete Work" of the Specifications. Care shall be used to protect the existing inlets and to finish the paving work to facilitate drainage as staked by the Engineer. Upon completion of the paving, the adjacent asphalt street paving shall be patched to join the concrete pavement and secure a smooth, neat finish, free from irregularities.

All damage to inlets and pavement adjacent to the concrete paving shall be repaired by the Contractor at his expense.

2.2-Method of Measurement. The quantity to be paid for under this item shall be the number of square yards of concrete pavement measured over the top surface and excluding the area of the 24" width of gutter included with the Combination 6" Curb and Gutter.

2.3-Payment. This item, constructed and measured in accordance with the foregoing requirements, will be paid for at the contract unit price per square yard for "6" Concrete Paving" complete in place, which price and payment shall include all materials, repairs, labor, tools, equipment, supplies and work incidental thereto.

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S T R E E T   P A V I N G   S P E C I F I C A T I O N S

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I N D E X

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recognized method of test approved by the Engineer. Tests for entrained air will be conducted by the Engineer or the Laboratory on concrete furnished for the work. Addition of the admixture to the concrete shall be made by a precise method subject to the approval of the Engineer.

9.5-Fine Aggregate. Fine aggregate shall be composed of clean, hard, durable uncoated particles of stone, free of lumps of clay, alkali, soft or flaky materials, loam and organic matter, well graded from coarse to fine and conforming to the following requirements:

a. Gradation.

U.S. Standard Sieve Size:	3/8"	No. 4	No. 16	No. 50	No. 100
Per Cent Passing Sieve:	100	95-100	45-80	10-30	2-10

b. Clay and Silt. Clay and silt shall not exceed 3% by weight.

c. Organic Impurities. All fine aggregates shall be free from injurious amounts of organic impurities. Aggregates subjected to the colorimetric test for organic impurities and producing a color darker than the standard shall be rejected unless they pass the following mortar strength test.

d. Mortar Strength. Fine aggregate shall be of such quality that when made into a mortar and tested in accordance with the "Standard Method of Test for Measuring Mortar-Making Properties of Fine Aggregate" (A.S.T.M. Designation: C 87), the mortar shall develop a compressive strength at 7 and 28 days of not less than 95 per cent of that developed by the mortar specified in that method as the basis for comparison.

e. Soundness. When tested in accordance with the "Tentative Method of Test of Soundness of Aggregates by Use of Sodium Sulfate" (A.S.T.M. Designation: C 88-46T), the weighted average loss in five cycles shall not exceed 15%.

f. Fineness Modulus. Fine aggregate shall have a fineness modulus between 2.50 and 2.90.

9.6-Coarse Aggregate. Coarse aggregate shall consist of crushed stone or gravel having hard, strong, durable pieces, free from adherent coatings and conforming to the following specifications:

a. Gradation. Coarse aggregate shall be well graded between the following limits:

U.S. Standard Sieve Size:	2"	1-1/2"	3/4"	3/8"	No. 4
Per Cent Passing Sieve:	100	95-100	35-70	10-30	0-5

b. Deleterious Substances. The maximum amount of any one of the deleterious substances given below shall not exceed the following percentage by weight:

Removed by decantation	0.5%
Shale	1.0%
Coal	1.0%
Clay lumps	0.5%
Soft fragments	2.5%

- c. Backfilling around and over the pipe shall be done in layers of six (6) inches, loose thickness, with suitable material approved by the Engineer. Each layer shall be thoroughly and carefully compacted to a density at least equivalent to that of the adjacent undisturbed ground. The backfill material shall have correct moisture content or consistency to secure maximum density.

7.4-Method of Measurement. The footage to be paid for shall be the finished length of pipe in place, backfilled in accordance with this specification, and accepted. Measurement will be along the longitudinal axis from end to end of each pipe.

7.5-Basis of Payment. This item, measured as provided in the foregoing, will be paid for at the contract unit prices per lineal foot for "Corrugated Metal Pipe" of the various diameters, complete in place, which prices and payment shall constitute full compensation for furnishing and installing the pipe complete with connecting bands, excavation, backfilling and compacting, and for all materials, labor, equipment, tools, supplies, and incidentals necessary to complete the item.

#### ITEM 8. DRAINAGE PIPE.

This item shall consist of furnishing and installing pipe of the types and sizes of drainage pipe, exclusive of Corrugated Metal Pipe, indicated on the plans or ordered by the Engineer. All materials, construction methods, work, and basis of payment shall be in accordance with requirements of Standard Sewer Specifications of the City and County of Denver.

#### ITEM 9. CONCRETE WORK.

9.1-Description. Portland Cement Air Entrained Concrete shall be used in construction of all the drainage facilities for this district. Concrete shall consist of portland cement, air-entraining admixture, fine aggregate, coarse aggregate, and water. In no case will the use of pit run or naturally mixed aggregates be permitted.

9.2-Preparation of Subgrade. All subgrade upon which concrete is to be placed shall be thoroughly compacted and moistened. Concrete shall only be placed when subgrade is moist and not when it is too wet or dry.

9.3-Cement. Portland cement shall conform to the "Standard Specifications for Portland Cement" (A.S.T.M. Designation: C 150) and shall be Type I. The Contractor shall be responsible for the proper storage of all cement until it is used in the work. No damaged cement shall be used in the work and all such cement shall be immediately removed from the site when so ordered by the Engineer.

When requested by the Engineer, the Contractor shall, at his own cost and expense, furnish the Engineer with a certificate from an acceptable testing laboratory, preferably the laboratory designated by the City, for each carload of cement from which cement is to be used on the work stating that the cement meets the requirements of said "Standard Specifications for Portland Cement".

9.4-Admixture. Admixture used for the purpose of entraining air in all concrete shall be a Vinsol-resin solution such as Protex, Darex or other agent approved by the Engineer. Such admixture shall produce a total entrained air content in the concrete of not less than three (3) per cent or more than six (6) per cent by volume of the concrete as determined by the "Tentative Method of Test for Air Content of Freshly Mixed Concrete" (A.S.T.M. Designation: C 173) or by other



- b. The specified drop shall be eighteen (18) inches instead of twelve (12) inches.
- c. The samples shall be compacted using five equal layers of material instead of three layers.

4.8-Basis of Payment. Payment shall be made at the contract price per ton for "Gravel Base Course", complete in place except that water and rolling will be paid for separately as provided in the Proposal.

ITEM 5. WATER.

5.1-Description. At the request of the Engineer, water shall be furnished to insure the compaction of subgrade, select material and gravel at an optimum moisture content.

5.2-Basis of Payment. Payment shall be made at the contract unit price per one thousand gallons of "Water" placed. No payment shall be made to the Contractor for water used in the control of dust.

ITEM 6. ROLLING.

6.1-Description. To insure proper compaction of subgrade, select material, and gravel base course, rolling shall be performed as directed by the Engineer using one of the types of equipment specified in Paragraphs 1.5 or 4.6 of the Specifications. All rolling equipment shall be adequately powered to operate at most effective speeds. Sheepfoot rollers and pneumatic rollers shall be operated at not less than three miles per hour.

6.2-Basis of Payment. Payment shall be made at the contract unit prices per hour for "Sheepfoot Rolling", "Pneumatic Rolling", or "Flatwheel Rolling" and shall be full compensation for furnishing and using the rolling as needed together with power unit, operator, fuel, supplies, and all incidental costs.

ITEM 7. CORRUGATED METAL PIPE.

7.1-Description. This item shall consist of furnishing and installing galvanized corrugated metal pipe of the size and dimensions required at locations designated by the plans or ordered by the Engineer, and in accordance with these specifications.

7.2-Materials. Corrugated Metal Pipe shall conform to A.A.S.H.O. Specification M 36-47.

7.3-Construction Requirements.

- a. The trench for the pipe shall be excavated to the line, depth and grade established by the Engineer and the bottom of the trench shall be shaped to conform to the bottom of the pipe and shall provide a firm and uniform bearing throughout the entire length of the pipe. If, in the opinion of the Engineer, the material in the bottom of the excavation is of such character that unequal settlement along the length of the pipe would result, the trench shall be dug below the pipe grade as ordered, backfilled with gravel or other suitable material, and thoroughly tamped or otherwise compacted to insure an unyielding foundation.
- b. The pipe shall be laid in the trench to established line and grade with separate sections firmly joined together. The outside laps of circumferential joints shall point upstream with longitudinal laps on the sides where practicable.

The surfacing material shall have a resistance to plastic deformation value of at least seventy five (75) when tested by the Hveem Stabililometer method.

Coarse aggregate shall have a per cent of wear of not more than 50 at 500 revolutions when tested using the Los Angeles Abrasion Test (A.S.T.M. C 131-39).

4.3-Filler for Blending. If filler in addition to that naturally present in the base course material is necessary for meeting the grading requirements or for satisfactory bonding of the material, it shall be uniformly blended with the base course material at the screening and crushing plant or on the road. The material for such purpose shall be obtained from sources approved by the Engineer, shall be free from hard lumps, and shall not contain more than 15 per cent of material retained on a No. 4 sieve.

4.4-Placing and Spreading. All base course material shall be placed on the prepared subgrade and compacted in layers to the thickness shown on the plans. The material shall be deposited and spread in a uniform layer and without segregation of size to such loose depth that when compacted, the layer shall have a thickness not to exceed three (3) inches. Spreading shall be from dump boards, spreader boxes, or approved mechanical equipment, or from moving vehicles equipped, to distribute the material in a uniform layer. Material may be initially placed by an approved windrow method whenever the equipment so requires.

4.5-Mixing. After base course material has been spread, it shall be thoroughly blade-mixed to the full depth of the layer by alternately blading the entire layer to the center and back to the edges of the road. Traveling mixers or traveling plants of a type approved by the Engineer may be used in lieu of blade-mixing. The material shall be watered during the mixing when and if directed by the Engineer. When uniform, the mixture shall again be spread smoothly to the cross-section shown on the plans. Payment for mixing will not be made separately but shall be included in the price paid for Gravel Base Course in place. Payment for water shall be made separately as provided in the proposal.

4.6-Rolling. Immediately following final spreading and smoothing, all material placed shall be rolled with a pneumatic type or other approved roller until a density equal to 100% of the density determined by the Proctor Method Modified (A.A.S.H.O. Designation: T 99-49) is obtained. Any irregularities or depressions that develop under rolling shall be corrected by loosening the material at these places and adding or removing material until the surface is smooth and uniform. Along curbs, headers, and walls, and at all places not accessible to the roller, the base course material shall be tamped thoroughly with a mechanical tamper or hand tamper, the tamper faces of which shall not exceed twenty-five (25) square inches in area. The material shall be sprinkled with water during rolling, tamping and blading when and if directed by the Engineer. Immediately before asphaltic prime coat is to be placed, the base course surface shall be rolled smooth with a flatwheel roller having a minimum weight of six (6) tons.

4.7-Modification of Proctor Method for Determining Soil Density. The apparatus shall conform to the requirements of A.A.S.H.O. Method T 99-38 with the following changes:

- a. The weight of the metal hammer shall be ten (10) pounds instead of five and five-tenths (5.5) pounds. There shall be no change in the diameter of the hammer.

in foregoing paragraphs, it shall be paid for at the contract unit price per ton for "Select Subgrade Material" complete in place, which price and payment shall be full compensation for all materials, hauling, labor, tools, equipment, supplies, and work incidental thereto, except that watering and rolling will be paid for separately as provided under Items 5 and 6 herein.

ITEM 4. CRUSHED GRAVEL BASE COURSE.

4.1-Description. This item shall consist of a foundation course composed of crushed gravel or crushed stone and filler, constructed on the prepared subgrade in accordance with these specifications and in conformity with the lines, grades, and typical cross-section shown on the plans. The finished base course surface shall be such that it will not vary more than one-half (1/2) of an inch from a 12 foot straight edge applied to the surface parallel to the center line and at right angles thereto.

4.2-Materials. Crushed gravel or crushed stone base course material shall consist of hard, durable particles or fragments of stone or gravel crushed to required size and a filler of sand or other finely divided mineral matter. The portion of the material retained on a No. 4 sieve shall be known as coarse aggregate, and that portion passing a No. 4 sieve shall be known as filler. When produced from gravel, not less than 60% by weight of the coarse aggregate particles shall be particles having at least one fractured face, and if necessary to meet this requirement or to eliminate an excess of filler, the gravel shall be screened. The composite base course material shall be free from vegetable matter and lumps or balls of clay, and shall meet the following grading requirement:

<u>Standard Size of Sieve</u>	<u>Percentage by Weight Passing Sieve</u>
1-1/2 inch	100
1 inch	70-100
3/4 inch	60- 90
3/8 inch	45- 75
No. 4	30- 60
No. 10	20- 50
No. 40	10- 30
No. 200 (By washing)	5- 15

The amount of the fraction passing the No. 200 sieve shall be less than one-half the amount of the fraction passing the No. 40 sieve. That portion of the filler, including blended filler, passing a No. 40 sieve shall have a liquid limit of not more than 25 and a plasticity index of not more than 6, except that where the plasticity index is zero (0), the liquid limit shall not be more than thirty (30). Test shall be made in accordance with A.S.T.M. D 423 and D 424-39.

Material passing No. 10 sieve shall have a minimum compressive strength of one-hundred (100) pounds per square inch when subjected to the following test:

To the material passing the No. 10 sieve shall be added sufficient water to give a plastic mixture. This mixture shall then be moulded into cubes not less than two (2) inches square and not more than five (5) inches square and dried to a constant weight. The cubes shall then be capped with a suitable material, and the unit compression strengths determined in a standard compression machine.

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or the City. The Contractor shall be responsible for the repair of any damaged service lines.

1.11-Basis of Payment. All grading, including the excavation required in the removal of unsuitable material shall be paid for at the unit price per cubic yard for "Excavation". This price shall be considered as including the removal of wooden box culverts or other minor drainage structures, backfilling with suitable material from the district any excavations from which unsuitable materials have been removed, treatment of slopes, repair of damaged streets, disposal of excess material and protection of utility lines. Water and rolling shall be paid for separately as provided herein.

## ITEM 2. BLADING AND SHAPING.

2.1-Description and Requirements. In areas where base course surfacing has been placed under a previous contract, the Contractor shall blade and shape the surface of the base course to permit completion of the paving work. The blading and shaping shall conform to slopes, dimensions and other details of the typical roadway section and directions by the Engineer. Where necessary, excess base course material shall be removed.

2.2-Basis of Payment. This item will be paid for at the contract unit price per square yard for "Blading and Shaping" over the area completed as specified above, which price shall be full compensation for all materials, labor, tools, equipment, supplies, and work incidental thereto, except that additional base course material required to bring the base course to established grade will be accomplished and be paid for as provided in "Item 4, Gravel Base Course" of the Specifications.

## ITEM 3. SELECT SUBGRADE MATERIAL.

3.1-Description. In the event that suitable material is not available in the district for backfilling excavations from which unsuitable material has been removed, the Contractor shall procure select subgrade material upon direction of the Engineer.

3.2-Gradation. This material need not be crushed but can be of the pit run variety providing it is graded within the following limits:

<u>Sieve No.</u>	<u>Passing</u>
3 inch	100%
2-1/2	95-100%
No. 10	not more than 80%
No. 200	5-15%

The material supplied shall be a well graded mixture, consisting of sound aggregate particles and sufficient soil mortar or other proper quality binding material, which when placed and compacted will result in a firm, dense, unyielding foundation.

3.3-Placement. Select subgrade material shall be placed to the depth ordered by the Engineer. The thickness of any one layer shall in no case exceed six (6) inches. Wetting or aerating and rolling of the material will be required as ordered by the Engineer. The surface of the select subgrade material after compaction shall coincide with the finished subgrade elevation.

3.4-Basis of Payment. When suitable backfill material is not available in the District and the Contractor is required to furnish and place material as specified

(60) inches in length and mounted in a rigid frame so that each unit may oscillate independently of the other. Each unit shall be of such design that the load on the face of the tamper feet shall be not less than 250 pounds per square inch of cross-sectional area. The roller shall be so designed that the weight may be increased to not less than 500 pounds per square inch of cross-sectional area on the face of the tamper feet. The weight of the roller required during the progress of the work will be the maximum as described herein unless otherwise ordered by the Engineer. Each unit shall be provided with suitable tamper feet cleaning devices.

In the compaction of areas composed of materials which do not lend themselves to consolidation by tamping, such as sand, gravel, sandy loam, etc., a pneumatic roller shall be employed. Rubber tired rollers shall be of the double axle type, equipped with pneumatic tires of equal size and type. The space between the side walls of adjacent tires shall not exceed five (5) inches and the rear tires shall be staggered with relation to the front tires. The rolling width of the unit shall be not less than sixty (60) inches exclusive of the power unit. The roller shall be so constructed that the contact pressure is uniformly distributed among all of the tires and the tires shall be inflated to maintain the air pressure in the several tires within a total tolerance of five (5) pounds per square inch. The roller shall be so constructed that the total weight of the roller can be varied to produce an operating weight per tire of between one thousand (1,000) and two thousand (2,000) pounds. The operating weight of the roller shall be as ordered by the Engineer.

1.6-Subgrade for Curbs, Gutters and Sidewalks. Subgrade areas occupied by curbs, gutters and sidewalks shall be excavated, backfilled and compacted to established grade. This work shall be done with particular care in accordance with all requirements herein.

1.7-Excess Excavation. Excavated material that is not required for the construction of embankments or the backfilling of excavations from which unsuitable material has been removed shall belong to and be disposed of by the Contractor. The Contractor shall not deposit excess material on private property without first securing the written consent of the owner and filing a copy of such consent with the Engineer. In the event Contractor desires to dispose of excess material on City dump areas, the material shall be deposited thereon in location indicated by the Engineer and shall be kept below the grade designated by the Engineer. Prior to dumping material on any private property, the Contractor shall secure approval of the plan and elevation limits from the City Engineer.

1.8-Treatment of Slopes. Surface of ground between curb or sidewalk line and property line shall be sloped as staked or directed by the Engineer (but not steeper than a 2:1 slope) and rounded into existing lawn or ground surface. Payment for special handling of this work such as hand excavation, etc., will not be a separate item but shall be included in the unit price per cubic yard of excavation as staked by the Engineer.

1.9-Equipment Operated on Streets. The Contractor shall be permitted to operate only pneumatic-tired equipment over any paved street surfaces and shall be responsible for any damage to street surfaces in any manner resulting from the Contractor's operations.

1.10-Protection of Utility Lines. The Contractor shall at all times take proper precautions for the protection of utility lines, the presence of which are known or can be determined by the examination of appropriate maps of the utility companies

CITY AND COUNTY OF DENVER

DEPARTMENT OF IMPROVEMENTS AND PARKS

ENGINEERING SECTION

\* \* \* \* \*

STREET PAVING SPECIFICATIONS

March 10, 1954

ITEM 1. GRADING.

1.1-Description. This item shall consist of all grading above or below subgrade elevation, of whatever nature, required to bring the street to the proper subgrade elevation, including necessary excavation for curb, gutter, sidewalk and alley returns, construction of embankments, excavation and proper sloping of all cuts, removal of wooden box culverts, and other work incidental thereto.

1.2-Excavations. All excavations shall be made to subgrade elevations and shall be true to grade. Material below subgrade elevation in cuts shall not be loosened by plowing or other methods during the progress of the work except with the approval of the Engineer. No excavation shall be made below subgrade elevation except to remove spongy material, vegetable matter or other material as ordered by the Engineer. In the event the Contractor does excavate any other area below subgrade elevation, he shall replace the excavated material with satisfactory material and shall thoroughly compact the same at his own sole cost and expense.

1.3-Excavation Below Subgrade. Whenever excavation below subgrade elevation to remove spongy material, vegetable matter, or other material is ordered by the Engineer, the Contractor shall remove the same to the satisfaction of the Engineer and shall replace it with satisfactory material in layers not to exceed six (6) inches in thickness and shall thoroughly compact each layer before the next layer is placed. The volume of such spongy material, vegetable matter or other material removed shall be paid for at the unit price for excavation. When such excavations are backfilled with suitable material from other excavations in the District in the vicinity, no separate payment will be made for the same. In the event the Engineer orders such excavations to be filled with material from special borrow, the Contractor will be paid for the same at the unit price for "Select Subgrade Material" set forth in the Proposal. This unit price shall cover all expense of any kind in connection with the acquisition, delivery, distribution, etc., of such select subgrade material.

1.4-Construction of Embankments. Embankments shall be constructed up to subgrade elevations in layers not to exceed six (6) inches in thickness and for the full width of the embankment. Each layer shall be thoroughly compacted to the satisfaction of the Engineer before the next layer is placed.

1.5-Compaction of Subgrade. After excavating has been completed to approximate grade, upon direction of the Engineer, the subgrade shall be scarified to a depth of six (6) inches, wetted or aerated as needed, and rolled until a density equal to 95% of the density determined by the Proctor Method Modified (A.A.S.H.O. Designation: T 99-49) is obtained. The roller shall be a "sheepsfoot" or tamping type roller consisting of two water-tight cylindrical drum units, each unit at least sixty

The maximum amount of any combination of the deleterious substances listed in the foregoing shall not exceed three (3) per cent by weight.

- c. Abrasion. When tested in accordance with "Standard Method Test for Abrasion of Coarse Aggregate by Use of the Los Angeles Machine" (A.S.T.M. Designation: C 131), all weighted average loss in five cycles shall not exceed fifty (50) per cent.

9.7-Water. Water used in concrete shall be clean, clear, free from oil, acid, alkali, vegetable matter or other substance injurious to the finished concrete.

9.8-Strength. All concrete shall obtain a compressive strength at the age of twenty-eight (28) days of not less than three thousand (3,000) pounds per square inch with an indicated compressive strength at the age of seven (7) days of approximately two thousand (2,000) pounds per square inch. Failing said 28-day strength shall be ample cause for rejection.

9.9-Test Cylinders. Six (6) test cylinders six (6) inches in diameter and twelve (12) inches in length shall be made from each day's pour of concrete as directed by the Engineer. Samples of concrete shall be taken in accordance with the "Standard Method of Sampling Fresh Concrete" (A.S.T.M. Designation: C 172). Test cylinders shall be made in accordance with "Standard Method of Making and Curing Concrete Compression and Flexure Test Specimens in the Field" (A.S.T.M. Designation: C 31-44), shall be properly identified as to location which concrete was placed and shall be sent to the Laboratory for testing. Tests shall be made in accordance with "Standard Method of Test for Compressive Strength of Molded Concrete Cylinders" (A.S.T.M. Designation: C 39-44). Two cylinders shall be tested at the age of seven (7) days, two at the age of twenty-eight (28) days, and the remaining two held for later testing if considered necessary by the Engineer. The expense of testing the cylinders shall be borne by the City.

9.10-Reinforcing Steel.

- a. Reinforcing bars shall conform to the Standard Specification for Billet Steel Concrete Reinforcement Bars, A.A.S.H.O. Designation M 31-48, shall be "Intermediate Grade", and shall be of the sizes and shapes indicated on the plans.
- b. Wire and wire mesh reinforcing shall meet the requirements of A.A.S.H.O. Specification M 55-37.

9.11-Proportioning. The Contractor shall establish the actual proportions of cement, admixture, fine aggregate, coarse aggregate and water actually to be used on the District, within the limits set forth elsewhere in these specifications, to produce concrete of the required strength and workability, advising the Engineer in advance of doing any concrete work of the selected proportions and furnishing the Engineer with a substantiating series of specimens consisting of three (3) cylinders each which will clearly indicate that the proposed mix will produce a concrete of the required strength. In the event any appreciable change in the materials being used occurs during the progress of the work, the Contractor shall submit to the Engineer a revised mix substantiated by a report from an acceptable testing laboratory similar to the foregoing before proceeding with the furnishing of the concrete. In no case shall the concrete contain less than five and three quarters (5-3/4) sacks of cement per cubic yard. In determining the amount of mixing water to be used, all moisture present in the aggregates, except moisture

absorbed by the aggregate particles, shall be considered a part of the mixing water. Surface moisture present in the aggregate may be determined in accordance with "Standard Method of Test for Surface Moisture in Fine Aggregate" (A.S.T.M. Designation C 70-47), suitable adjustment in size of sample and dimensions of container being made for the test of coarse aggregate, or determination can be made by a drying method, in which case the percentage of moisture shall be determined by the following relation:

$$P = 100 \frac{W - W'}{W'}, \text{ where}$$

P - Percentage of moisture in the aggregate.  
W - Weight of sample before drying.  
W' - Weight of sample after drying.

The percentage so found shall be reduced one (1) per cent to compensate for absorption of moisture by the aggregate particles.

9.12-Consistency. Concrete shall have a slump of not more than four (4) inches or less than two (2) inches when tested in accordance with "Standard Method of Slump Test for Consistency of Portland Cement Concrete" (A.S.T.M. Designation: C 143-39). The quantity of mixing water shall not be varied from that established without the approval of the Engineer.

9.13-Weighing and Batching Equipment. Weighing and batching equipment shall be of such design and construction that the materials for each batch can be quickly and accurately weighed. It shall be so constructed that the operator can readily remove excess material from overcharged hoppers and see that all material has been released when the hoppers are discharged into the mixer.

Either springless dial or beam type scales shall be used for weighing bulk cement and aggregates. Beam type scales shall be equipped with a separate beam for each type of material to be weighed and with an accurate telltale dial. Beam type scales for cement shall be equipped with a tare beam. All scales shall be so designed that they may be maintained with a maximum tolerance of four-tenths (0.4) of one (1) per cent of the net load applied. Each scale installation shall be provided with standard fifty (50) pound test weights meeting the requirements of the U.S. Bureau of Standards for calibrating and testing weighing equipment. The minimum number of test weights required shall be of a weight equivalent to ten (10) per cent of the net load capacity to the nearest greater fifty (50) pound increment, but in no case shall there be less than two (2) test weights. The Contractor shall maintain the equipment in good condition and adjustment and shall provide for accurate operation. If, for any reason, equipment previously approved becomes unsatisfactory, it shall be repaired or replaced before proceeding with the work.

All batches of concrete which do not contain the proper amount of materials shall be dumped and disposed of at the Contractor's expense.

9.14-Forms. Metal or wooden forms may be used. They shall be free from warp, of sufficient strength to resist springing out of shape and shall be equal in width to the required thickness. Wooden forms shall be of not less than two (2) inch stock. Forms may be cleaned of all mortar and dirt before they are used. They shall be set to the established line and grade being well staked or otherwise held in place.



9.15-Expansion Joints. Expansion joints shall be provided in accordance with the thickness and other dimensions indicated on the plans or as directed by the Engineer. The joint filler shall extend the full depth and width of the concrete. Bituminous preformed expansion joint filler conforming to requirements of A.A.S.H.O. Specification M 33-48, cork-filled expansion joint filler conforming to requirements of A.A.S.H.O. Specification M 58-48, or asphalt impregnated bonded glass wool board complying with the requirements of A.A.S.H.O. Specification M 59-49 shall be used unless plans designate the particular type required. Lime and similar organic fiber fillers are not acceptable.

9.16-Mixing Concrete. Mixing of concrete shall conform to one of the two following methods:

- a. Mixer on Project. The mixing machine used shall be of an approved type known as batch mixer and of a design having a suitable device for automatically measuring the proper amount of water accurately to one-half ( $1/2$ ) of one (1) per cent and for automatically timing each batch of concrete so that all materials will be mixed together for the minimum time required. If the timing device becomes broken or fails to operate, the Contractor will be permitted to continue for the balance of the day and for one additional day without the timing device while the same is being repaired, providing that each batch of concrete is mixed not less than two minutes.

All of the materials for each batch of concrete, including the water, shall be mixed not less than one and one-half ( $1-1/2$ ) minutes after all of the materials are in the mixer, which shall revolve at the speed for which it is designed but not less than fourteen (14) or more than twenty (20) revolutions per minute. If, in the opinion of the Engineer, a thorough mixing of the concrete is not obtained during this period of time, a sufficient number of additional revolutions at the same rate shall be given to assure thorough mixing.

The inside of the mixer drum shall be kept free from hardened concrete. No materials for a batch of concrete shall be placed in the mixer until all of the previous batch has been discharged therefrom. Water shall be added at the time the materials are being run into the mixer.

- b. Central-Mixed, Shrink-Mixed or Transit-Mixed Concrete. Central-mixed, shrink-mixed or transit-mixed concrete shall be mixed and transported to the site of the work in accordance with "Standard Specifications for Ready-mixed Concrete" (A.S.T.M. Designation: C 94-48) with the following restrictions:

1. Cement Content. Delivery tickets shall show the cement content per cubic yard for each load.
2. Time of Delivery. Concrete must be delivered and discharged from the truck mixer or agitator truck within a period of one (1) hour after introduction of the water to the cement and aggregate or of the cement to the aggregate. Delivery tickets shall have this time clearly shown thereon, the original or a copy thereof to be furnished the Inspector on the work before the concrete is discharged.

3. Type of Delivery Equipment. Concrete shall be delivered in truck mixers or agitator trucks (Trucks providing mechanical agitation by revolving drums or revolving blade in stationary drum) operated, after time required for thorough mixing of the concrete, at the speed designated by the manufacturer as agitating speed. Delivery of central-mixed concrete shall not be made in non-agitating equipment without securing the prior written approval of the Engineer of the type of equipment to be used and method of operation.
4. Retempering of Concrete. Retempering of concrete which has partially hardened by remixing either with or without the addition of water will not be permitted.

9.17-Placing Reinforcement. Reinforcing steel shall be set and securely tied in place. This work shall be done in accordance with details on plans and as ordered by the Engineer.

9.18-Placement of Concrete. Before concrete is placed, the subgrade shall be thoroughly sprinkled but not to such an extent as to cause a muddy condition or pools of water. All concrete shall be deposited in place in such a manner as to secure as nearly as possible a monolithic structure without joints except as specified. Under no circumstances shall it be deposited on a muddy subgrade or in water. It shall not be deposited in freezing weather or at such a time that it may be subjected to freezing weather soon after being deposited, except with the written permission of the Engineer and then only under proper conditions satisfactory to the Engineer. The Contractor shall be responsible for any defects in the quality and appearance of all completed work. Care shall be used to maintain the reinforcing steel in correct position at all times, and concrete shall be carefully rodded and spaded around the reinforcement. Formed surfaces which are to be exposed to view after the removal of forms shall have the concrete well spaded against the forms so as to bring the mortar to the surface and avoid honeycombing or exposure of coarse aggregate. After thorough consolidation, the concrete shall conform to the thickness shown on the plans. Any evidence of lack of consolidation shall be regarded as sufficient reason for requiring the removal of the section involved and its replacement with new concrete.

9.19-Finishing. The top surface of the concrete shall conform to cross-sections shown on the detail plans and to the grades established and staked by the Engineer. The surface shall be given a steel trowel and brush finish in a manner satisfactory to the Engineer.

9.20-Curing. As soon as concrete surfaces have been finished and before the set of the cement has taken place, the concrete shall be cured by the following method:

All exposed surfaces of concrete, including edges, etc., after removal of forms, shall be covered with an impervious membrane. The Contractor shall secure the approval of the Laboratory of the impervious membrane material it is proposed to use and of the method and quantity of application. The impervious coating shall contain a white pigment, which will clearly show that the surface has been properly coated and sealed. Application of the impervious membrane shall be made with a pressure sprayer at the rate of coverage recommended by the Laboratory immediately after the concrete has been finished; provided, that in the

event application of the coating is delayed, the concrete surface shall be kept continually moist until the coating is applied. On formed surfaces, the concrete shall be moistened immediately after the forms are removed and promptly coated with the impervious membrane. If the formed edges are not coated with the impervious membrane, they shall be protected by having moist or wet earth packed against them promptly after the forms are removed.

9.21-Opening to Traffic. Concrete shall not be opened to traffic for a period of at least seven (7) days after the last concrete has been placed, or for a longer period of time, if the Engineer considers it necessary. It shall be the obligation of the Contractor to maintain suitable barricades for this purpose.

9.22-Basis of Payment. Payment for concrete items shall be made on the following basis:

Combination Curb and Gutter, or Combination Curb, Gutter and Sidewalk	Per Lineal Foot
Curb Head	Per Lineal Foot
Concrete Sidewalk	Per Square Foot
Alley Return	Per Lineal Foot
Alley Gutter	Per Lineal Foot
Street Intersection Gutter	Per Square Yard

or other items as set forth in the proposal form, and shall represent full compensation for all excavation and backfilling, the finishing and compaction of subgrade, furnishing, placing, finishing and curing of the concrete, reinforcing steel, and other materials, and all incidentals connected therewith. Length of and payment for transition sections from combination vertical curb and gutter to combination curb, gutter and sidewalk will not be a separate item but will be included in item for combination curb, gutter and sidewalk.

#### ITEM 10. INLETS.

10.1-Description. Inlets shall be constructed of concrete at locations indicated on plans or designated by the Engineer, to lines and grades established by the Engineer and in conformity with the details on the plans. Inlet structures constructed for combination curb, gutter and sidewalk shall include transition sections of curb, gutter and sidewalk two (2) feet long at each end of inlet and also sidewalk section in back of inlet. Inlet structures constructed for combination 6" or 9" curb and gutter shall include transition sections of curb and gutter two (2) feet long at each end of inlet. Construction of inlets shall include the furnishing and placing of all frames, grates, necessary reinforcing steel and angles designated on the plans. The exposed surfaces of curb, gutter and sidewalk sections shall be given a steel trowel and brush finish in manner satisfactory to the Engineer.

10.2-Connecting Pipes. Contractor shall install necessary connecting pipes from inlet structures to manholes or storm sewer pipes or structures of sizes called for on the plans.

10.3-Basis of Payment. Contractor shall be paid on the basis of number of inlets of each type constructed, which shall include the construction of the required transition sections. Removal of combination curb, gutter and sidewalk and/or combination curb and gutter in connection with construction of inlet structures will be paid for as a separate item on basis of number of lineal feet removed. Replacement of combination curb, gutter and sidewalk and combination curb and gutter beyond ends of transition sections at inlets will be paid for on basis of number of lineal feet of each type replaced. Connecting pipes will be paid for on the basis of number of lineal feet of sewer pipe of size required installed, measurement to be made from center line of inlet structure to connection with existing pipe, or to center line of manhole or sewer main to which they are connected.

ITEM 11. ASPHALT PAVING.

11.1-Description. This item shall consist of furnishing and placing asphaltic prime coat, asphaltic concrete pavement of the compacted thickness shown on the plans or required by the Engineer, asphaltic seal coat, and cover aggregate to make a complete asphaltic pavement.

11.2-Asphaltic Materials. Asphaltic materials shall conform with the specifications on following pages designated:

Table I - MC (Medium Curing) Asphaltic Road Material

Table II - Paving Asphalts

Table III - RC (Rapid Curing) Asphaltic Road Material

TABLE I

## MC (MEDIUM CURING) ASPHALTIC ROAD MATERIAL

Specification Designation	MC-0	MC-1	MC-2	MC-3	MC-4	MC-5
General Requirements	The material shall be free from water and shall meet the following requirements:					
Flash Point (Tag Open) °F. Minimum	100	100	150	150	150	150
Furol Vis. at 77°F.	75-150	-	-	-	-	-
Furol Vis. at 122°F.	-	75-150	-	-	-	-
Furol Vis. at 140°F.	-	-	100-200	250-500	-	-
Furol Vis. at 180°F.	-	-	-	-	125-250	300-600
Distillation: Distillate % of Total distillate to 680°F. To 437°F.	0-25	0-20	0-10	0-5	0	0
To 500°F.	40-70	25-65	15-55	5-40	30-	20-
To 600°F.	<u>75-93</u>	<u>70-90</u>	<u>60-87</u>	<u>55-85</u>	<u>40-80</u>	<u>20-75</u>
Residue from dis- tillation to 680°F.: Vol. % by diff. minimum	50	60	67	73	78	82
Tests on residue from distillation: Penetration 77°F., 100 g., 5 sec.	120-300	120-300	120-300	120-300	120-300	120-300
*Ductility 77°F., not less than	100 cm.	100 cm.	100 cm.	100 cm.	100 cm.	100 cm.
*Ductility 39.2°F. not less than	5 cm.	5 cm.	5 cm.	5 cm.	5 cm.	5 cm.
% Soluble in CCl <sub>4</sub> , minimum	99.5	99.5	99.5	99.5	99.5	99.5
V.I. of Oily Consti- tuents, maximum	75	75	75	75	75	75
Oliensis Spot Test	NEG.	NEG.	NEG.	NEG.	NEG.	NEG.

\*NOTE: If penetration of residue is more than 200 and its ductility at 77°F. is less than 100, the material will be acceptable if its ductility at 60°F. is not less than 100 cm. The rate of pull shall be 5 cm. per minute.

TABLE II  
PAVING ASPHALTS

Specification Designation	Grade (Penetration)			
General Requirements	The paving asphalt supplied under this specification shall be homogeneous product derived from asphaltic crudes, be free from water and no mineral matter other than that naturally contained in the asphalt shall be present.			
Flash Point (Cleveland Open) °F., Minimum	450	450	450	400
Penetration of original sample at 77°F. 100 g., 5 sec.	50-60 60-70	85-100	120-150 150-200	200-250
Loss on heating 5 hrs. at 325°F. % Max.	1	1	2	2
Penetration after loss on heating, Per cent of original, min.	70%	70%	70%	70%
*Ductility at 77°F., min. *Ductility at 39.2°F.	100 cm. 3 cm.	100 cm. 5 cm.	100 cm. 5 cm.	100 cm. 5 cm.
Solubility in CCl <sub>4</sub> , % min.	99.5	99.5	99.5	99.5
Oliensis Spot Test	NEG.	NEG.	NEG.	NEG.
V.I. Of Oily Constituents Maximum	75	75	75	75

\*NOTE: The rate of pull shall be 5 cm. per minute.

Unless otherwise specified in the addendum for the District, paving asphalt shall have a penetration at 77°F. of 120-150.



11.3-Mineral Aggregate for Asphaltic Paving.

11.3.1-Description. This item shall consist of hard, durable particles or fragments of stone or crushed gravel having incorporated in it limestone dust, iron oxide or other binding material in such proportions that the whole will be a homogeneous material after mixing at asphalt plant.

11.3.2-Gradation. The mineral aggregate shall be well graded from coarse to fine and, when tested by means of laboratory sieves with square openings, shall conform to the following limits for the composite material:

<u>Sieve Designation</u>	<u>Per Cent by Weight Passing</u>
1 inch	100%
3/4 inch	90% to 100%
1/2 inch	75% to 90%
No. 4	45% to 60%
No. 10	35% to 47%
No. 40	23% to 33%
No. 200	5% to 10%

11.3.3-Fractured Faces. At least 60% of all mineral aggregate not passing the No. 4 sieve shall have at least one (1) fractured face.

11.3.4-Disintegrated Stone, Etc. The mineral aggregate retained on the No. 10 sieve shall be clean, free from disintegrated stone, vegetable matter or other deleterious substances.

11.3.5-Abrasion. The mineral aggregate shall show a loss of not more than fifty (50) per cent when tested in accordance with A.A.S.H.O. Standard Method of Test for Abrasion of Coarse Aggregate by Use of the Los Angeles Machine, Designation: T 96-49.

11.3.6-Relation of Material Passing No. 200 and No. 40 Sieves. Material passing the No. 200 sieve shall be less than one-half (1/2) the material passing the No. 40 sieve.

11.3.7-Liquid Limit, Etc. The material passing the No. 40 sieve shall have a liquid limit of not more than twenty-five (25) and a plasticity index of not more than six (6), except that where the plasticity index is zero (0), the liquid limit shall be not more than thirty (30). Test for liquid limit shall be made in accordance with Standard Methods of Determining the Liquid Limit of Soils A.A.S.H.O. Designation: T 89-49, and for plasticity in accordance with Standard Methods of Determining the Plastic Limit of Soils, A.A.S.H.O. Designation: T 90-49.

11.3.8-Compressive Strength of Material Passing No. 10 Sieve. Material passing the No. 10 sieve shall have a minimum compressive strength of one hundred (100) pounds per square inch when subjected to the following test:

To material passing the No. 10 sieve shall be added sufficient water to give a plastic mixture. This mixture shall then be molded into cubes not less than two (2) inches square and not more than five (5) inches square and dried to constant weight. The cubes shall then be capped with a suitable material, and the unit compressive strength determined in a standard compression machine.



11.3.9-Elimination of Fines Below No. 10 Sieve. The Contractor will be required to furnish a screen or other suitable means to eliminate fines below the No. 10 sieve if such fines should prove to be objectionable material.

11.3.10-Addition of Fine Material. If sufficient fine material of satisfactory quality is not naturally present in the mineral aggregate, it shall be added. Material consisting of finely powdered limestone, Portland cement or other artificially or naturally powdered mineral dust approved by the Engineer may be used for filler. It shall be free of lumps, balls, or deleterious material and shall be of such fineness that all will pass a No. 50 sieve and not less than eighty (80) per cent will pass a No. 200 sieve. The proper quantity of filler shall be added separately to each batch of asphaltic concrete at the time of proportioning.

11.4-Cover Aggregate for Seal Coat.

11.4.1-Description. This item shall consist of broken stone or crushed gravel having hard, durable particles or fragments.

11.4.2-Gradation. The chips or cover aggregate shall conform to the following gradation:

<u>Sieve Designation</u>	<u>Per Cent by Weight Passing</u>
1/2 inch	100
3/8 inch	50 to 70
No. 4	0 to 10
No. 10	0 to 5
No. 200	0 to 2

11.4.3-Abrasion. The chips or cover aggregate, when tested in accordance with Standard Method of Test for Abrasion for Coarse Aggregate by Use of the Los Angeles Machine, A.A.S.H.O. Designation: T 96-49, shall show a loss of not more than fifty (50) per cent.

11.4.4-Fractured Faces. At least sixty (60) per cent by weight of the material retained on the No. 4 sieve shall have fractured faces. No pea gravel will be allowed.

11.5-Prime Coat.

11.5.1-Description. An asphaltic prime coat shall be applied to gravel base course before asphaltic pavement is placed.

11.5.2-Material. The material shall be an MC asphaltic road material of the proper grade for use considering the condition of the base course, temperature, etc.

11.5.3-Construction Method. When, in the opinion of the Engineer, the prepared base is thoroughly dry and satisfactory to receive the prime coat, the surface shall be cleaned by sweeping or other approved methods. The cleaning shall be continued until the embedded aggregates are uncovered but not dislodged and all dust, mud and foreign matter removed. The asphaltic material shall be applied uniformly to the cleaned base at the rate of approximately 0.25 to 0.35 gallons per square yard of surface area. The application shall be made with an approved type of self-propelled pressure distributor so constructed and operated as to distribute the material evenly and smoothly in the quantity specified or directed. The material shall have a temperature ranging from 75° to 120°F. and shall only

be applied when the outside temperature is at least 50°F. in the shade and rising. The prime coat shall be permitted to cure until thorough and proper penetration has been obtained, but at no time shall the curing period be less than 24 hours. Pools of bituminous material occurring in depressions shall be removed from the surface before applying the asphaltic concrete. At no time during the period of curing shall traffic be allowed upon the primed surface of the road. At locations where the prime coat has failed, it shall be repaired in a manner satisfactory to the Engineer. If the primed surface is damaged by the Contractor's operations, he shall repair it and roll it at his own expense. The prime coat shall be maintained at all times until the asphaltic concrete mixture is placed thereon.

#### 11.6-Asphaltic Concrete.

11.6.1-Description. The asphaltic concrete shall consist of mineral aggregate and mineral filler all uniformly mixed with paving asphalt at an acceptable asphalt paving plant. The materials shall conform to the foregoing specifications.

#### 11.6.2-Plant.

- a. The paving plant must be of modern design and be equipped with at least two (2) bins for aggregate separation and with machinery to do efficient work. Mixing of mineral aggregates, mineral filler and paving asphalt shall be done in a twin pug mill, steam jacketed, or other approved type mixer. It must have sufficient capacity to be able to turn out at least five hundred (500) tons of asphaltic concrete per day of eight hours, without crowding. A recording pyrometer must be installed at the discharge end of the drier in such position that it can be readily seen by the operator and the inspector. Weighing and measuring devices shall be of such design and construction that the materials for such batch can be quickly and accurately determined. A separate scale shall be provided for weighing paving asphalt. All such devices shall be provided with means for testing them similar to those specified under Section 9.13 hereof. The plant must be arranged to permit sampling of each bin at its discharge gate.
- b. A volumetric proportioning, continuous mixing type of plant may be substituted for the above weigh-batch type when approved by the Engineer and provided the equipment has demonstrated that it is suitable in producing the required gradation control of aggregates and uniformity of mixture. The number of bin compartments provided shall be the same as stipulated above for batch-type plant. The plant shall include a feeder mounted under the bin compartments and a means of accurately proportioning each bin size of aggregate by accurately controlled individual gate to form an orifice for measuring the material. The orifice shall be rectangular, of dimensions about eight (8) inches by nine (9) inches with one dimension adjustable by positive mechanical means and provided with a lock. Indicators shall be provided on each gate to show the gate opening in inches. There shall be included a means for calibrating the gate openings by means of weight test samples. Satisfactory means shall be provided to afford positive interlocking control between the flow of aggregate from the bins, and the flow of bitumen from the meter, or other proportioning source. This control shall be adjustable and, after being set, shall be capable of remaining fixed.

11.6.3-Inspection of Plant. The Engineer or his authorized representatives shall have access at any reasonable time to all parts of the plant for the verification

of weights and proportions, character of materials and determination of temperatures used in the preparation of the mixture.

11.6.4-Preparation of Mineral Aggregate. Mineral aggregate shall be dried in suitable revolving driers until the moisture content does not exceed one (1) per cent. It shall be heated to a temperature not to exceed 325°F. After heating, the mineral aggregate shall at once be passed over a set of screens that will separate it into at least four (4) different sizes and be stored in separate bins.

11.6.5-Proportioning. The composite gradation limits prescribed for mineral aggregate under Section 11.3.2 are the permissible ranges for general use. The materials to be used for any particular job shall be subject to closer control, which shall be obtained by means of a "job-mix formula". This shall consist of a written statement submitted by the Contractor for the approval of the Engineer setting forth:

1. A definite percentage by weight of the aggregate passing each sieve which the Contractor elects to use within the gradation limitations set forth in Section 11.3.2.
2. The percentage by weight of paving asphalt, limits varying from 5% to 7% as condition warrants.
3. The temperature at which it is proposed to deliver the mixture on the job. This must be between 250°F. and 300°F.

This statement shall be submitted prior to beginning of the paving work, which shall not be started nor will any mixture be accepted until the Contractor has received approval from the Engineer of the proposed job-mix formula. After such approval, the Contractor shall produce a mixture conforming thereto within the following tolerances:

<u>Item</u>	<u>Plus or Minus</u>
Paving Asphalt	0.30%
Aggregate-percentage passing each sieve except the No. 200	4.00%
Aggregate-percentage passing the No. 200 sieve	0.50%
Mixture temperature upon delivery at job	20°F.

The asphaltic concrete mixture shall have a resistance to plastic deformation value of at least thirty five (35) when tested by the Hveem Stabilometer method.

The job-mix formula shall be subject to revision at the direction of the Engineer if conditions make adjustment desirable.

11.6.6-Samples for Testing. The Contractor shall furnish the Laboratory with sufficient quantities of mineral aggregate, filler and asphaltic materials for properly checking them and the job-mix formula. No payment will be made for such test materials.

11.6.7-Mixing. The mixing of mineral aggregate, filler and paving asphalt in approved pug mill or mixer shall continue until a uniform mixture is obtained with

all of the particles of aggregate being thoroughly coated with asphalt. The temperature of the aggregate when introduced into the mixer in no case shall be more than 25°F. above the temperature of the asphalt.

11.6.8-Transportation of Mixture. The asphaltic concrete mixture shall be transported from the paving plant to the work in tight vehicles previously cleaned of all foreign matter and, when directed by the Engineer, each load shall be covered with canvas or other suitable material of sufficient size to protect it from weather conditions. No loads shall be sent out so late in the day as to interfere with spreading and compacting the mixture during the daylight unless artificial light satisfactory to the Engineer is provided.

11.6.9-Placing Asphaltic Concrete Mixture. Prior to the arrival of the asphaltic concrete mixture on the project, the base shall be cleaned of all dirt or other foreign matter. When the new pavement abuts old paving, the Contractor shall, at his own expense, cut back the old pavement as directed by the Engineer and paint the edge of the old pavement with a coat of hot asphalt cement thinned with naphtha. The mixture shall be delivered (within tolerances permitted) at the temperature specified in the job-mix formula. It shall be laid only when the base is dry and when weather conditions are suitable. The asphaltic concrete shall be spread by means of a mechanical self-powered paver, except in locations inaccessible to such equipment, in which case hand method will be permitted. When hand methods are used, the mixture shall be dumped outside the area over which it is to be spread, after which it shall be immediately distributed to the proper cross-section. Sufficient asphaltic concrete shall be placed in one layer to provide the compacted thickness shown on the plans or specified by the Engineer. The asphaltic concrete shall have a density when thoroughly compacted of not less than ninety (90) per cent of the calculated density of a voidless mixture composed of the same materials in like proportions. If necessary, pneumatic rolling shall be employed to procure the specified density. No extra payment shall be made for this rolling.

11.6.10-Rolling Asphaltic Concrete Surface Mixture. While hot, the asphaltic concrete surface mixture shall be thoroughly and uniformly compacted by a roller weighing not less than ten (10) tons. Rolling shall start longitudinally at the sides and shall proceed towards the center, overlapping on each trip at least one half of the width of the roller until the roller marks are ironed out. The motion of the roller shall at all times be slow enough to avoid the displacement of the hot mixture (3 miles per hour maximum) and any displacement must be at once corrected by the use of hot rakes and fresh mixture when required by the Engineer. After the longitudinal rolling is completed, the pavement shall be cross-rolled when the width of the street will permit, otherwise it shall be diagonally rolled in two directions crossing each other. Rolling shall be at a rate of not more than 200 square yards per hour. Water may be used to prevent adhesion of the base mixture to the roller wheels but shall not be used in excess. When the rolling is completed, there shall be no roller marks left. Along curbs, headers and similar structures and at places not accessible to the roller, the mixture shall be thoroughly compacted with hot tampers. After compaction, the surface mixture must have its surface true to crown and grade. If there are any defects, they shall be at once remedied to the satisfaction of the Engineer. Where it becomes necessary to make a joint in the pavement, such joint shall be made according to the approved custom in such matters and to the satisfaction of the Engineer.

11.6.11-Joints. Placing of the asphaltic concrete surface mixture shall be as nearly continuous as possible, and the roller shall pass over the unprotected end

of the freshly laid mixture only when the laying of the surface is to be discontinued for such length of time as to permit the mixture to become chilled. In all such cases, including the formation of joints as hereinafter specified, provisions shall be made for the proper bond with the new surface mixture by cutting or trimming the joint so as to expose an unsealed or granular surface for the full specified depth of the course. At the end of each day's work on the surface mixture, joints shall be formed by laying and rolling against boards of the thickness of the compacted mixture, placed across the entire width of the pavement, or by such other methods as may be approved by the Engineer. When the laying of the asphaltic concrete surface mixture is resumed, the exposed edge of the joint shall be painted with a thin coat of hot asphalt cement thinned with naptha and the fresh mixture shall be raked against the joint, thoroughly tamped with hot tampers and rolled.

#### 11.7-Seal Coat.

11.7.1-Description. Seal coat shall consist of an application of asphaltic road material and cover aggregate to the compacted asphaltic concrete.

11.7.2-Material. The material shall be RC asphaltic road material of the proper grade for use considering the condition of the asphaltic concrete, temperature, etc. Cover aggregate shall conform to Section 11.4 hereof.

#### 11.7.3-Construction Method.

- a. Bituminous seal coat and aggregate shall be applied only when the pavement is dry and in the judgment of the Engineer, the pavement is warm enough to insure proper penetration. Seal coating operation shall not be carried on during inclement weather.
- b. Immediately prior to the application of bituminous material, the existing road surface shall be cleaned with a power broom for the full width to be treated of all dirt, dust and other objectionable matter. The bituminous material shall be applied uniformly to the cleaned road surface at the rate of 0.25 to 0.35 gallons per square yard. The application shall be made with an approved type of self-propelled pressure distributor so constructed and operated as to distribute the bituminous material evenly and smoothly in the quantity specified or directed and with a squeegee cart for places inaccessible to pressure distributor.
- c. Immediately after the bituminous material has been applied, the cover aggregate shall be spread uniformly over the treated surface with an approved aggregate spreader at the rate of 20 to 30 pounds per square yard, operated in such a manner that the bituminous material will be covered before the equipment wheels travel over it. After the application of cover aggregate, any areas that show a deficiency of aggregate shall immediately be covered by hand or with a chip spreader. The progress of the seal coat application shall be governed by the rate at which the cover aggregate is applied. In no event shall the bituminous material be left uncovered longer than one-half (1/2) hour.
- d. After the aggregate has been uniformly spread, the road surface shall be rolled sufficiently with an eight (8) ton roller to embed the aggregate into the bituminous material. The time interval between spreading the aggregate and initial rolling with the steel-wheeled roller shall

not be more than ten (10) minutes and the final rolling with the pneumatic-tired roller, not more than forty-five (45) minutes. The steel-wheeled roller shall be operated at a speed of not more than 2.5 miles per hour. The time and extent of rolling shall be as directed by the Engineer and soon enough to obtain satisfactory embedment of the aggregate. No extra payment shall be made for this rolling. A broom drag or other light drag shall be used prior to and simultaneously with the rolling operations if so directed by the Engineer to ensure a uniform and complete covering by the aggregate. The loose aggregate shall be lightly broomed over the surface, care being taken not to disturb the particles which are set in the binder.

- e. The road may be opened to traffic as soon as the surface has cured sufficiently that it will not pick up. After road has been opened to traffic for approximately three days, the Contractor shall sweep loose cover aggregate back over the surface uniformly. After sufficient additional time under traffic has elapsed in the opinion of the Engineer to secure the maximum embedment of cover aggregate in the seal coat, the Contractor shall sweep up and remove the remaining loose aggregate from the street. As far as possible, such excess cover aggregate shall be used elsewhere on the district unless the Engineer considers it unsatisfactory for such use.
- f. A double seal coat shall be applied on pavement adjacent to concrete street intersection gutters. The second seal coat shall cover the traffic lanes extending from the gutters for a minimum distance of twenty-five (25) feet in accordance with locations and dimensions designated by the Engineer. This work shall be accomplished after removal of all loose cover aggregate, and be consistent with the foregoing requirements. The second seal coat will not be paid for separately, but shall be measured and be paid for under the items of "Seal Coat" and "Cover Aggregate" as provided in the Proposal.

11.8-Basis of Payment. The asphaltic pavement shall be paid for on the following basis, the prices to include the furnishing, preparing, transporting, spreading, compacting, removing surplus cover aggregate and all other work necessary to construct asphalt paving complete on the prepared base:

- 1. "Prime Coat" - Asphaltic Material - Per gallon
- 2. "Asphaltic Concrete" - Per ton of mixture
- 3. "Seal Coat" - Asphaltic Material - Per gallon
- 4. "Cover Aggregate" - Per ton

ITEM 12. RIPRAP.

12.1-Description. This item shall consist of supplying and placing approved stone on slopes to protect them from washing at places indicated on the plans or as designated by the Engineer.

12.2-Materials. Material used shall be sound, durable stones, or concrete which has been removed from the project if approved by the Engineer. Stones shall weigh not less than seventy-five (75) pounds each, except filler stones.

12.3-Placement. The stones shall be placed as close together as possible so as to leave a minimum of interstices. The interstices shall be filled with smaller, sound, durable stones and, if called for on the plans, grout shall be applied.

12.4-Basis of Payment. Payment shall be made at the contract unit price per square yard for riprap in place, which price shall be full compensation for furnishing, hauling and placing the materials and any incidentals necessary to complete this item.

ITEM 13. OBSTRUCTIONS.

13.1-Description. The Contractor shall, when directed by the Engineer, remove from the limits of the streets being improved any obstructions or obstacles the presence of which can be determined by visual inspection, such as trees, bushes, fences, walls and other structures. No separate payment will be made for this work, except for the removal of trees with an average diameter of 6 inches or more as provided for under Item 14 and except for items provided for under Item 15 herein.

ITEM 14. REMOVING OR REMOVING AND TRANSPLANTING TREES.

14.1-Description.

- a. When called for on the plans or directed by the Engineer, trees shall be removed from the construction area. The removal of all trees shall include a sufficient length of the heart or tap root to insure that the tree has been killed. Trees which have been removed shall be disposed of by the Contractor in areas designated by the City.
- b. Where shown on plans or directed by the Engineer, trees shall be removed and transplanted at locations staked by the Engineer. All work shall be done carefully to avoid injury to the trees, and the root systems shall be protected against damage at all times during removing, moving and transplanting operations. Holes for transplanting trees shall be of sufficient size to permit the placing of six inches of topsoil around and under the root ball. Planting shall be by puddling and by placing topsoil and areas of removal and transplanting shall be finished in a neat, leveled condition. If, in the opinion of the Engineer, trees cannot be successfully transplanted because of the season or other causes, such trees shall be removed and disposed of as provided in foregoing paragraph, and transplanting operations would be accomplished as extra work as covered by "GC-42 Extra Work" of the Specifications.

14.2-Basis of Payment.

- a. Payment for "Removing Trees" shall be at the contract unit price for each tree with an average diameter of 6 inches or more and shall be full compensation for removal and disposal, including any additional excavation necessary and other incidentals. Removal of trees with a smaller diameter will not be paid for as a separate item but the cost thereof shall be included in the unit price for cubic yard of excavation.
- b. The number of trees removed and transplanted will be paid for at the contract unit price each for "Removing and Transplanting Trees", complete in place, which price and payment shall be full compensation for all materials, labor, tools, equipment, supplies and work incidental to completing the item.

ITEM 15. ITEMS FOR REMOVAL.

15.1-Description and Requirements. In accordance with items listed in the proposal,

the Contractor shall remove existing pipes, aprons, curbs and/or gutters, sidewalks and other similar items, the removal of which is necessary in connection with construction of the project. The Contractor shall dispose of the removed material, except that suitable materials may be salvaged for rip-rap or bank protection as ordered by the Engineer. This item shall not include removal of wooden box culverts or other minor drainage structures which are to be included in cost of excavation as provided under Item I herein.

15.2-Basis of Payment. These removed items will be paid for at the contract prices in accordance with the units provided for in the proposal form, which prices shall include all materials, labor, tools, equipment, supplies, and work incidental to completion of each item.

ITEM 16. LOWERING WATER SERVICES.

16.1-Description and Requirements. When directed by the Engineer, water services encroaching on construction shall be lowered to conform to requirements of the new cross-section and other construction details.

Any work involving the cutting of water pipe in connection with this item or with other items in the Contract shall be done by a licensed plumber and shall be subject to inspection and approval by a representative of the Board of Water Commissioners of Denver.

16.2-Basis of Payment. This item will be paid for at the contract unit price each for "Lowering Water Services", complete in place, and shall be considered full compensation for all work connected therewith.

ITEM 17. MOVING WATER BOXES AND WATER METERS.

17.1-Description. When directed by the Engineer, water stop boxes or water meters encountered shall be relocated.

17.2-Basis of Payment. These relocated items shall be paid for at the unit price bid for "Moving Water Boxes" or "Moving Water Meters" as required, and shall be considered full compensation for all work connected therewith. Adjustments of water boxes or meters left in place will not be considered a pay item.

ITEM 18. ADJUSTING MANHOLE TOPS.

18.1-Description. The Contractor shall raise or lower existing manhole tops within the limits of the district to coincide with the finished grade elevation of the paving.

18.2-Basis of Payment. Payment for this item will be made on the basis of the number of such manhole tops to be adjusted at a unit price each for "Adjusting Manhole Tops", complete in place.

ITEM 19. STREET AND TRAFFIC SIGNS.

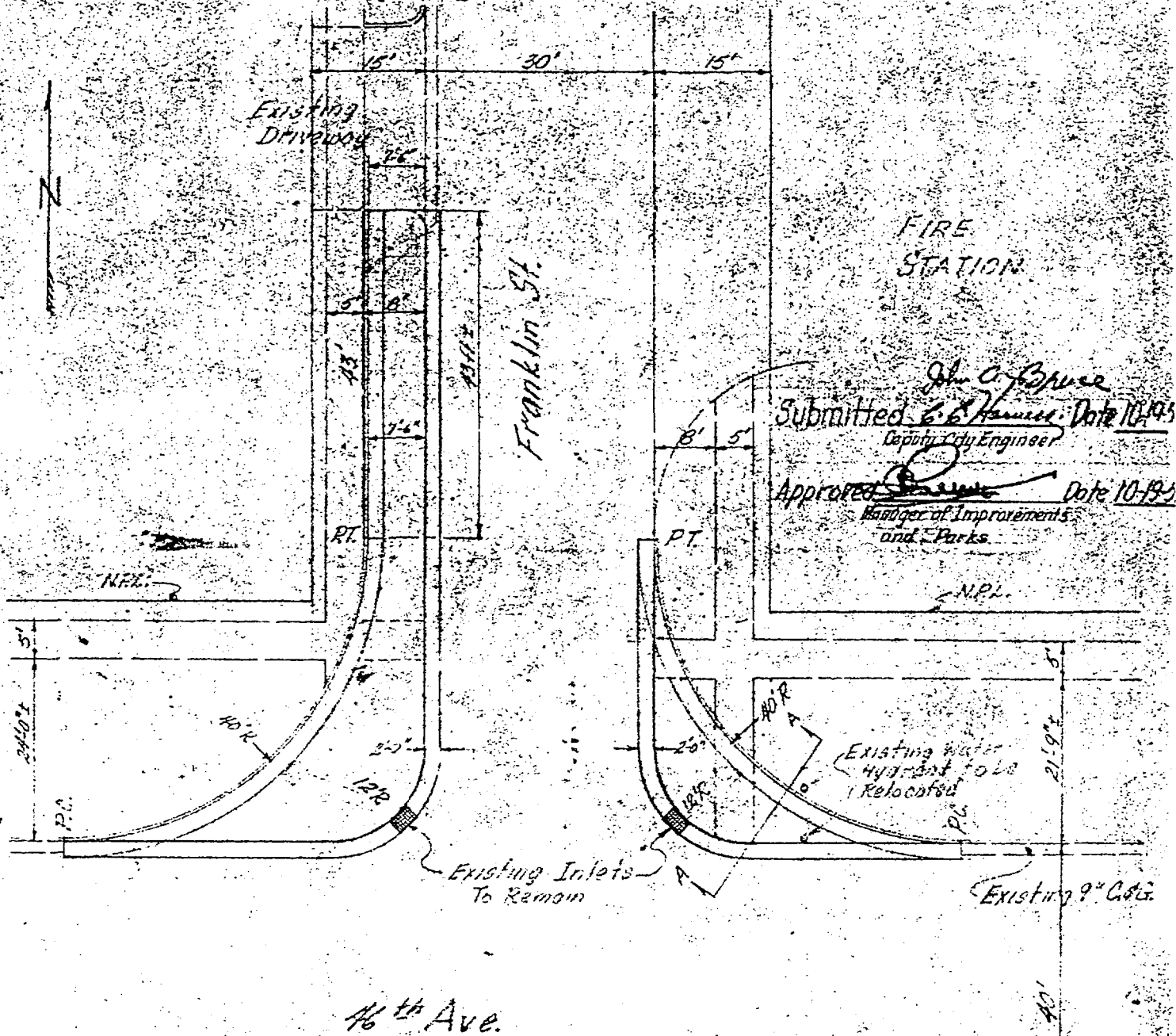
19.1-Description. This item shall consist of the removal and replacement of all street signs which are in place at the time contract is signed. The signs shall be removed as the work progresses in such a manner as to avoid any damage to the signs. They shall then be replaced as directed by the Engineer. In the event any stop signs or traffic direction signs are removed and traffic is permitted across the intersection so affected, the Contractor shall furnish such portable signs or other protection as may be necessary for the proper handling of the traffic, including the furnishing of flagmen at particularly dangerous intersections. No payment will be made to the Contractor for this protection.



ITEM 20. PROJECT SIGNS.

20.1-Description. This item shall consist of the manufacture of project signs in accordance with the plans and their placement at locations designated by the Engineer. They shall be moved from time to time as the work progresses and care shall be taken in their handling to assure their continued good appearance. Damaged or defaced signs shall be replaced at the Contractor's expense. No payment shall be made for the manufacture, placing, moving, or replacing of these signs.

D 00545



Submitted John C. Bruce Date 10-19-28  
E. E. Hammer  
 Deputy City Engineer  
 Approved [Signature] Date 10-19-28  
 Manager of Improvements  
 and Parks

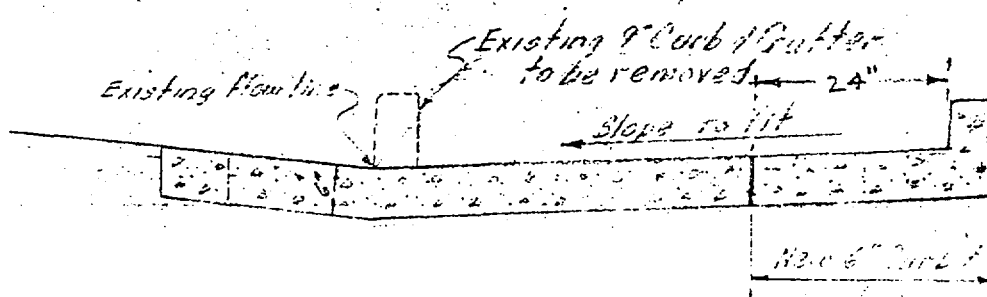
46th Ave.

**NOTE**

All work is to be done in accordance with the specifications issued and stakes furnished by the City Engineer's Office.

Plan (Scale: 1"=20')

D 00546



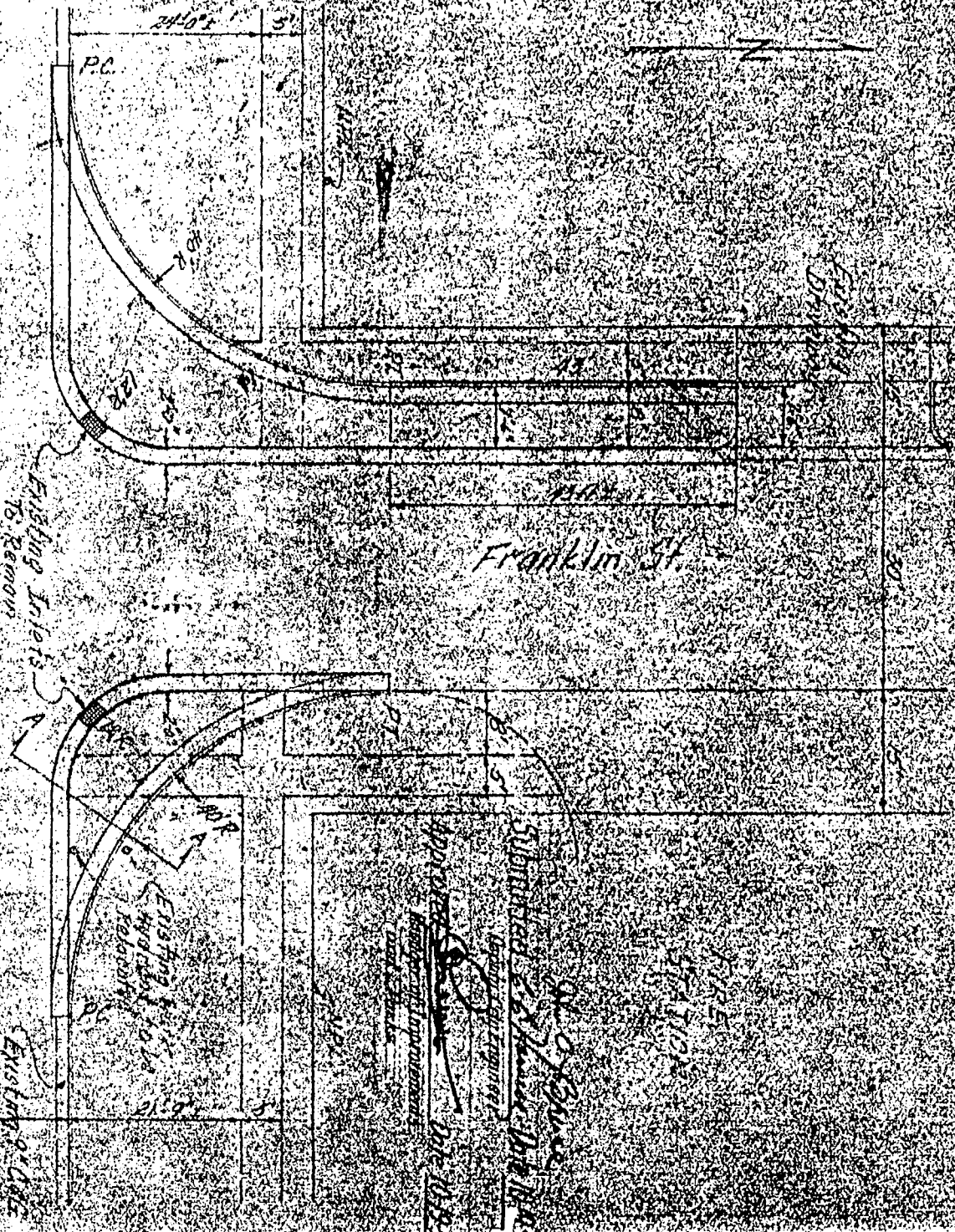
**NOTE**

The slope of gutter and height of curb shall be modified to meet conditions as staked by the Engineer.

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46th Ave.

**NOTE**

All work is to be done in accordance with the specifications issued and stakes furnished by the City Engineers Office.

PLAN (Scale 1"=20')

Existing 9" Curb & Gutter to be removed 24"

Slope to fit

New 6" Curb & Gutter

**NOTE**

The slope of gutter and height of curb shall be modified to meet conditions as staked by the Engineer.

D 00547

W.A.M.  
 Submitted & Approved  
 Date 10-1-58

Engineer  
 Checked by  
 Date 10-1-58